

TEST

TEST 4 UNARY&BINARY
MD-11-DOD-D

EP-D0D-D-DL-A
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FICHE 1 OF 1

NOV 1976
digital
MADE IN USA

.REM :

IDENTIFICATION

PRODUCT CODE: MAINDEC-11-DOAA TO DOLA-D
 PRODUCT NAME: FIRST LEVEL 1-12
 DATE CREATED: 17 MARCH 1970
 MAINTAINER: DIAGNOSTIC GROUP
 AUTHOR: JOHN HITTELL

THIS GROUP OF TESTS CONSIST OF:

PROCESSOR TEST	MAINDEC
TEST 1	BRANCH 11-DOAA
2	CON BRANCH 11-DOBA
3	UNARY 11-DUCA
4	UNARY AND BINARYS 11-DODA
5	ROTATE/SHIFT 11-DOEA
6	COMPARE 11-DOFA
7	COMPARE NOT 11-DOGA
8	MOVE 11-DOHA
9	BIS, BIC AND BIT 11-DOIA
10	ADD 11-DOJA
11	SUBTRACT 11-DOKA
12	JMP 11-DOLA

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7.2 OPERATIONAL RESTRICTION
NONE

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8. MISCELLANEOUS

IF A HALT OCCURES IN THE TRAP OR INTERRUPT VECTOR AREA, REGISTER SIX SHOULD BE EXAMINED TO DETERMINE ITS CONTENTS, THEN USE REGISTER SIX CONTENTS AS AN ADDRESS TO DETERMINE THE LOCATION THE PROGRAM WAS AT, WHEN THE INTERRUPT OR TRAP OCCURRED. (MEMORY AS SPECIFIED BY R6 CONTAINS THE PC OF THE INSTRUCTION FOLLOWING THE INSTRUCTION WHERE THE TRAP OCCURED)

8.1 EXECUTION TIME

TIME BETWEEN BELLS

FOR TAPE 1	5	MINUTES
FOR TAPE 2	2.5	MINUTES
FOR TAPE 3	3	MINUTES
FOR TAPE 4	6	MINUTES
FOR TAPE 5	5	MINUTES
FOR TAPE 6	6	MINUTES
FOR TAPE 7	5	MINUTES
FOR TAPE 8	6	MINUTES
FOR TAPE 9	3	MINUTES
FOR TAPE 10	4	MINUTES
FOR TAPE 11	2	MINUTES
FOR TAPE 12	4	MINUTES

9. PROGRAM DESCRIPTION

- TEST 1 THIS IS A TEST OF THE UNCONDITIONAL BRANCH INSTRUCTION, IT PROVES THAT A LONG PROGRAM CAN BE LOADED AND THE INSTRUCTIONS CAN BE EXECUTED THROUGHOUT MEMORY.
- TEST 2 THIS IS A CONDITIONAL BRANCH TEST USING ALL OF THE CONDITIONAL BRANCH INSTRUCTIONS. IT TESTS THAT ALL COMBINATIONS OF CONDITION CODES ARE RESPONDED TO CORRECTLY. (THE CONDITION CODES ARE MANIPULATED WITH THE MICRO-PROGRAM OPERATIONS.)
- TEST 3 THIS IS A TEST OF THE UNARY INSTRUCTIONS AND THEIR EFFECTS UPON THE CONDITION CODES ONLY. MOSTLY REGISTER OPERATIONS.
- TEST 4 THIS IS A COMBINED USE OF UNARY AND BINARY INSTRUCTIONS TESTING THE RESULTS AND THE CONDITION CODES.
- TEST 5 THIS TEST ROTATE AND SHIFT INSTRUCTION, BOTH THE REGISTERS AND MEMORY LOCATIONS, WORD AND BYTE, ARE TESTED.
- TEST 6 THIS IS A TEST OF THE COMPARE INSTRUCTIONS FOR

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EQUALITY. ALL CONDITIONAL BRANCHES THAT WILL
BRANCH ON ANY FORM OF EQUALITY ARE ALSO TESTED.
BOTH WORD AND BYTE OPERATIONS ARE USED.

(9 CONT'D)

TEST 7 COMPARE NOT. THIS IS A TEST OF THE COMPARE INSTRUCTIONS WHERE NO VALUES ARE EQUAL. HEPE BRANCHES FOR NOT EQUAL, GREATER THAN AND LESS THAN, ETC., ARE TESTED.

TEST 8 CHECKS THE MOVE INSTRUCTION BOTH TO MEMORY AND REGISTERS.

TEST 9 CHECK THE BIS, BIC AND BIT INSTRUCTION BOTH TO MEMORY AND TO REGISTERS.

TEST 10 TESTS THE ADD INSTRUCTION.

TEST 11 TESTS THE SUBTRACT INSTRUCTION.

TEST 12 TEST OF THE JUMP INSTRUCTION IN MOST MODES.

NOTE THAT STACK OPERATION AND INSTRUCTIONS THAT USE THEM ARE NOT TESTED IN THIS GROUP OF TEST.

- 10. LISTING
- 11. FLOW CHART(S)

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0
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0
1

308	000226	100001	BPL	.+4	
309	000230	000000	HLT		;N NOT CLEARED
310	000232	102001	BVC	.+4	
311	000234	000000	HLT		;V NOT CLEARED
312	000236	103001	BCC	.+4	
313	000240	000000	HLT		;C NOT CLEARED
314	000242	000240	SCOPE		
315	000244	000277	SCC		;CLEAR CONDITION CODES
316	000246	005001	CLR	%1	;TEST THE CLR %1 INSTRUCTIONS
317	000250	001401	BEQ	.+4	;BRANCH IF Z IS SET
318	000252	000000	HLT		;Z WAS NOT SET
319	000254	100001	BPL	.+4	
320	000256	000000	HLT		;N NOT CLEARED
321	000260	102001	BVC	.+4	
322	000262	000000	HLT		;V NOT CLEARED
323	000264	103001	BCC	.+4	
324	000266	000000	HLT		;C NOT CLEARED
325	000270	000240	SCOPE		
326	000272	000277	SCC		;CLEAR CONDITION CODES
327	000274	005002	CLR	%2	;TEST THE CLR %2 INSTRUCTIONS
328	000276	001401	BEQ	.+4	;BRANCH IF Z IS SET
329	000300	000000	HLT		;Z WAS NOT SET
330	000302	100001	BPL	.+4	
331	000304	000000	HLT		;N NOT CLEARED
332	000306	102001	BVC	.+4	
333	000310	000000	HLT		;V NOT CLEARED
334	000312	103001	BCC	.+4	
335	000314	000000	HLT		;C NOT CLEARED
336	000316	000240	SCOPE		
337	000320	000277	SCC		;CLEAR CONDITION CODES
338	000322	005003	CLR	%3	;TEST THE CLR %3 INSTRUCTIONS
339	000324	001401	BEQ	.+4	;BRANCH IF Z IS SET
340	000326	000000	HLT		;Z WAS NOT SET
341	000330	100001	BPL	.+4	
342	000332	000000	HLT		;N NOT CLEARED
343	000334	102001	BVC	.+4	
344	000336	000000	HLT		;V NOT CLEARED
345	000340	103001	BCC	.+4	
346	000342	000000	HLT		;C NOT CLEARED
347	000344	000240	SCOPE		
348	000346	000277	SCC		;CLEAR CONDITION CODES
349	000350	005004	CLR	%4	;TEST THE CLR %4 INSTRUCTIONS
350	000352	001401	BEQ	.+4	;BRANCH IF Z IS SET
351	000354	000000	HLT		;Z WAS NOT SET
352	000356	100001	BPL	.+4	
353	000360	000000	HLT		;N NOT CLEARED
354	000362	102001	BVC	.+4	
355	000364	000000	HLT		;V NOT CLEARED
356	000366	103001	BCC	.+4	
357	000370	000000	HLT		;C NOT CLEARED
358	000372	000240	SCOPE		
359	000374	000277	SCC		;CLEAR CONDITION CODES
360	000376	005005	CLR	%5	;TEST THE CLR %5 INSTRUCTIONS
361	000400	001401	BEQ	.+4	;BRANCH IF Z IS SET
362	000402	000000	HLT		;Z WAS NOT SET
363	000404	100001	BPL	.+4	

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364	000406	000000	HLT		;N NOT CLEARED
365	000410	102001	BVC	.+4	
366	000412	000000	HLT		;V NOT CLEARED
367	000414	103001	BCC	.+4	
368	000416	000000	HLT		;C NOT CLEARED
369	000420	000240	SCOPE		
370	000422	000277	SCC		;CLEAR CONDITION CODES
371	000424	005010	CLR	0%0	;TEST THE CLR 0%0 INSTRUCTIONS
372	000426	001401	BEQ	.+4	;BRANCH IF Z IS SET
373	000430	000000	HLT		;Z WAS NOT SET
374	000432	100001	BPL	.+4	
375	000434	000000	HLT		;N NOT CLEARED
376	000436	102001	BVC	.+4	
377	000440	000000	HLT		;V NOT CLEARED
378	000442	103001	BCC	.+4	
379	000444	000000	HLT		;C NOT CLEARED
380	000446	000240	SCOPE		
381	000450	000277	SCC		;CLEAR CONDITION CODES
382	000452	005011	CLR	0%1	;TEST THE CLR 0%1 INSTRUCTIONS
383	000454	001401	BEQ	.+4	;BRANCH IF Z IS SET
384	000456	000000	HLT		;Z WAS NOT SET
385	000460	100001	BPL	.+4	
386	000462	000000	HLT		;N NOT CLEARED
387	000464	102001	BVC	.+4	
388	000466	000000	HLT		;V NOT CLEARED
389	000470	103001	BCC	.+4	
390	000472	000000	HLT		;C NOT CLEARED
391	000474	000240	SCOPE		
392	000476	000277	SCC		;CLEAR CONDITION CODES
393	000500	005012	CLR	0%2	;TEST THE CLR 0%2 INSTRUCTIONS
394	000502	001401	BEQ	.+4	;BRANCH IF Z IS SET
395	000504	000000	HLT		;Z WAS NOT SET
396	000506	100001	BPL	.+4	
397	000510	000000	HLT		;N NOT CLEARED
398	000512	102001	BVC	.+4	
399	000514	000000	HLT		;V NOT CLEARED
400	000516	103001	BCC	.+4	
401	000520	000000	HLT		;C NOT CLEARED
402	000522	000240	SCOPE		
403	000524	000277	SCC		;CLEAR CONDITION CODES
404	000526	005013	CLR	0%3	;TEST THE CLR 0%3 INSTRUCTIONS
405	000530	001401	BEQ	.+4	;BRANCH IF Z IS SET
406	000532	000000	HLT		;Z WAS NOT SET
407	000534	100001	BPL	.+4	
408	000536	000000	HLT		;N NOT CLEARED
409	000540	102001	BVC	.+4	
410	000542	000000	HLT		;V NOT CLEARED
411	000544	103001	BCC	.+4	
412	000546	000000	HLT		;C NOT CLEARED
413	000550	000240	SCOPE		
414	000552	000277	SCC		;CLEAR CONDITION CODES
415	000554	005014	CLR	0%4	;TEST THE CLR 0%4 INSTRUCTIONS
416	000556	001401	BEQ	.+4	;BRANCH IF Z IS SET
417	000560	000000	HLT		;Z WAS NOT SET
418	000562	100001	BPL	.+4	
419	000564	000000	HLT		;N NOT CLEARED

420	000566	102001	BVC	.+4	
421	000570	000000	HLT		;V NOT CLEARED
422	000572	103001	BCC	.+4	
423	000574	000000	HLT		;C NOT CLEARED
424	000576	000240	SCOPE		
425	000600	000277	SCC		;CLEAR CONDITION CODES
426	000602	005015	CLR	0%5	;TEST THE CLR 0%5 INSTRUCTIONS
427	000604	001401	BEQ	.+4	;BRANCH IF Z IS SET
428	000606	000000	HLT		;Z WAS NOT SET
429	000610	100001	BPL	.+4	
430	000612	000000	HLT		;N NOT CLEARED
431	000614	102001	BVC	.+4	
432	000616	000000	HLT		;V NOT CLEARED
433	000620	103001	BCC	.+4	
434	000622	000000	HLT		;C NOT CLEARED
435	000624	000240	SCOPE		
436	000626	000277	SCC		;CLEAR CONDITION CODES
437	000630	005020	CLR	(0)+	;TEST THE CLR (0)+ INSTRUCTIONS
438	000632	001401	BEQ	.+4	;BRANCH IF Z IS SET
439	000634	000000	HLT		;Z WAS NOT SET
440	000636	100001	BPL	.+4	
441	000640	000000	HLT		;N NOT CLEARED
442	000642	102001	BVC	.+4	
443	000644	000000	HLT		;V NOT CLEARED
444	000646	103001	BCC	.+4	
445	000650	000000	HLT		;C NOT CLEARED
446	000652	000240	SCOPE		
447	000654	000277	SCC		;CLEAR CONDITION CODES
448	000656	005021	CLR	(1)+	;TEST THE CLR (1)+ INSTRUCTIONS
449	000660	001401	BEQ	.+4	;BRANCH IF Z IS SET
450	000662	000000	HLT		;Z WAS NOT SET
451	000664	100001	BPL	.+4	
452	000666	000000	HLT		;N NOT CLEARED
453	000670	102001	BVC	.+4	
454	000672	000000	HLT		;V NOT CLEARED
455	000674	103001	BCC	.+4	
456	000676	000000	HLT		;C NOT CLEARED
457	000700	000240	SCOPE		
458	000702	000277	SCC		;CLEAR CONDITION CODES
459	000704	005022	CLR	(2)+	;TEST THE CLR (2)+ INSTRUCTIONS
460	000706	001401	BEQ	.+4	;BRANCH IF Z IS SET
461	000710	000000	HLT		;Z WAS NOT SET
462	000712	100001	BPL	.+4	
463	000714	000000	HLT		;N NOT CLEARED
464	000716	102001	BVC	.+4	
465	000720	000000	HLT		;V NOT CLEARED
466	000722	103001	BCC	.+4	
467	000724	000300	HLT		;C NOT CLEARED
468	000726	000240	SCOPE		
469	000730	000277	SCC		;CLEAR CONDITION CODES
470	000732	005023	CLR	(3)+	;TEST THE CLR (3)+ INSTRUCTIONS
471	000734	001401	BEQ	.+4	;BRANCH IF Z IS SET
472	000736	000000	HLT		;Z WAS NOT SET
473	000740	100001	BPL	.+4	
474	000742	000000	HLT		;N NOT CLEARED
475	000744	102001	BVC	.+4	

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476	000746	000000	HLT		;V NOT CLEARED
477	000750	103001	BCC	.+4	
478	000752	000000	HLT		;C NOT CLEARED
479	000754	000240	SCOPE		
480	000756	000277	SCC		;CLEAR CONDITION CODES
481	000760	005024	CLR	(4)+	;TEST THE CLR (4)+ INSTRUCTIONS
482	000762	001401	BEQ	.+4	;BRANCH IF Z IS SET
483	000764	000000	HLT		;Z WAS NOT SET
484	000766	100001	BPL	.+4	
485	000770	000000	HLT		;N NOT CLEARED
486	000772	102001	BVC	.+4	
487	000774	000000	HLT		;V NOT CLEARED
488	000776	103001	SCC	.+4 -	
489	001000	000000	HLT		;C NOT CLEARED
490	001002	000240	SCOPE		
491	001004	000277	SCC		;CLEAR CONDITION CODES
492	001006	005025	CLR	(5)+	;TEST THE CLR (5)+ INSTRUCTIONS
493	001010	001401	BEQ	.+4	;BRANCH IF Z IS SET
494	001012	000000	HLT		;Z WAS NOT SET
495	001014	100001	BPL	.+4	
496	001016	000000	HLT		;N NOT CLEARED
497	001020	102001	BVC	.+4	
498	001022	000000	HLT		;V NOT CLEARED
499	001024	103001	BCC	.+4	
500	001026	000000	HLT		;C NOT CLEARED
501	001030	000240	SCOPE		
502	001032	000277	SCC		;CLEAR CONDITION CODES
503	001034	005041	CLR	-(1)	;TEST THE CLR -(1) INSTRUCTIONS
504	001036	001401	BEQ	.+4	;BRANCH IF Z IS SET
505	001040	000000	HLT		;Z WAS NOT SET
506	001042	100001	BPL	.+4	
507	001044	000000	HLT		;N NOT CLEARED
508	001046	102001	BVC	.+4	
509	001050	000000	HLT		;V NOT CLEARED
510	001052	103001	BCC	.+4	
511	001054	000000	HLT		;C NOT CLEARED
512	001056	000240	SCOPE		
513	001060	000277	SCC		;CLEAR CONDITION CODES
514	001062	005042	CLR	-(2)	;TEST THE CLR -(2) INSTRUCTIONS
515	001064	001401	BEQ	.+4	;BRANCH IF Z IS SET
516	001066	000000	HLT		;Z WAS NOT SET
517	001070	100001	BPL	.+4	
518	001072	000000	HLT		;N NOT CLEARED
519	001074	102001	BVC	.+4	
520	001076	000000	HLT		;V NOT CLEARED
521	001100	103001	BCC	.+4	
522	001102	000000	HLT		;C NOT CLEARED
523	001104	000240	SCOPE		
524	001106	000277	SCC		;CLEAR CONDITION CODES
525	001110	005043	CLR	-(3)	;TEST THE CLR -(3) INSTRUCTIONS
526	001112	001401	BEQ	.+4	;BRANCH IF Z IS SET
527	001114	000000	HLT		;Z WAS NOT SET
528	001116	100001	BPL	.+4	
529	001120	000000	HLT		;N NOT CLEARED
530	001122	102001	BVC	.+4	
531	001124	000000	HLT		;V NOT CLEARED

532	001126	103001	BCC	.+4	
533	001130	000000	HLT		;C NOT CLEARED
534	001132	000240	SCOPE		
535	001134	000277	SCC		;CLEAR CONDITION CODES
536	001136	005044	CLR	-(4)	;TEST THE CLR -(4) INSTRUCTIONS
537	001140	001401	BEQ	.+4	;BRANCH IF Z IS SET
538	001142	000000	HLT		;Z WAS NOT SET
539	001144	100001	BPL	.+4	
540	001146	000000	HLT		;N NOT CLEARED
541	001150	102001	BVC	.+4	
542	001152	000000	HLT		;V NOT CLEARED
543	001154	103001	BCC	.+4	
544	001156	000000	HLT		;C NOT CLEARED
545	001160	000240	SCOPE		
546	001162	000277	SCC		;CLEAR CONDITION CODES
547	001164	005045	CLR	-(5)	;TEST THE CLR -(5) INSTRUCTIONS
548	001166	001401	BEQ	.+4	;BRANCH IF Z IS SET
549	001170	000000	HLT		;Z WAS NOT SET
550	001172	100001	BPL	.+4	
551	001174	000000	HLT		;N NOT CLEARED
552	001176	102001	BVC	.+4	
553	001200	000000	HLT		;V NOT CLEARED
554	001202	103001	BCC	.+4	
555	001204	000000	HLT		;C NOT CLEARED
556	001206	000240	SCOPE		
557	001210	000277	SCC		;CLEAR CONDITION CODES
558	001212	005030	CLR	@(0)+	;TEST THE CLR @(0)+ INSTRUCTIONS
559	001214	001401	BEQ	.+4	;BRANCH IF Z IS SET
560	001216	000000	HLT		;Z WAS NOT SET
561	001220	100001	BPL	.+4	
562	001222	000000	HLT		;N NOT CLEARED
563	001224	102001	BVC	.+4	
564	001226	000000	HLT		;V NOT CLEARED
565	001230	103001	BCC	.+4	
566	001232	000000	HLT		;C NOT CLEARED
567	001234	000240	SCOPE		
568	001236	000277	SCC		;CLEAR CONDITION CODES
569	001240	005031	CLR	@(1)+	;TEST THE CLR @(1)+ INSTRUCTIONS
570	001242	001401	BEQ	.+4	;BRANCH IF Z IS SET
571	001244	000000	HLT		;Z WAS NOT SET
572	001246	100001	BPL	.+4	
573	001250	000000	HLT		;N NOT CLEARED
574	001252	102001	BVC	.+4	
575	001254	000000	HLT		;V NOT CLEARED
576	001256	103001	BCC	.+4	
577	001260	000000	HLT		;C NOT CLEARED
578	001262	000240	SCOPE		
579	001264	000277	SCC		;CLEAR CONDITION CODES
580	001266	005032	CLR	@(2)+	;TEST THE CLR @(2)+ INSTRUCTIONS
581	001270	001401	BEQ	.+4	;BRANCH IF Z IS SET
582	001272	000000	HLT		;Z WAS NOT SET
583	001274	100001	BPL	.+4	
584	001276	000000	HLT		;N NOT CLEARED
585	001300	102001	BVC	.+4	
586	001302	000000	HLT		;V NOT CLEARED
587	001304	103001	BCC	.+4	

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000000 001306 000000
000001 001310 000240
000002 001312 000277
000003 001314 005033
000004 001316 001401
000005 001320 000000
000006 001322 100001
000007 001324 000000
000008 001326 102501
000009 001330 000000
000010 001332 103301
000011 001334 000000
000012 001336 000240
000013 001340 000277
000014 001342 005034
000015 001344 001401
000016 001346 000000
000017 001350 100001
000018 001352 000000
000019 001354 102001
000020 001356 000000
000021 001360 103001
000022 001362 000000

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HLT
SCOPE
SCC
CLR 2(3)+
BEQ .+4
HLT
BPL .+4
HLT
BVC .+4
HLT
BCC .+4
HLT
SCOPE
SCC
CLR 2(4)+
BEQ .+4
HLT
BPL .+4
HLT
BVC .+4
HLT
BCC .+4
HLT

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;C NOT CLEARED
;CLEAR CONDITION CODES
;TEST THE CLR 2(3)+ INSTRUCTIONS
;BRANCH IF Z IS SET
;Z WAS NOT SET
;N NOT CLEARED
;V NOT CLEARED
;C NOT CLEARED
;CLEAR CONDITION CODES
;TEST THE CLR 2(4)+ INSTRUCTIONS
;BRANCH IF Z IS SET
;Z WAS NOT SET
;N NOT CLEARED
;V NOT CLEARED
;C NOT CLEARED

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611	001364	000240	SCOPE		
612	001366	000277	SCC		;CLEAR CONDITION CODES
613	001370	005035	CLR	2(5)+	;TEST THE CLR 2(5)+ INSTRUCTIONS
614	001372	001401	BEQ	.+4	;BRANCH IF Z IS SET
615	001374	000000	HLT		;Z WAS NOT SET
616	001376	100001	BPL	.+4	
617	001400	000000	HLT		;N NOT CLEARED
618	001402	102001	BVC	.+4	
619	001404	000000	HLT		;V NOT CLEARED
620	001406	103001	BCC	.+4	
621	001410	000000	HLT		;C NOT CLEARED
622					
623	001412	000240	SCOPE		
624	001414	000277	SCC		;CLEAR CONDITION CODES
625	001416	005050	CLR	2-(0)	;TEST THE CLR 2-(0) INSTRUCTIONS
626	001420	001401	BEQ	.+4	;BRANCH IF Z IS SET
627	001422	000000	HLT		;Z WAS NOT SET
628	001424	100001	BPL	.+4	
629	001426	000000	HLT		;N NOT CLEARED
630	001430	102001	BVC	.+4	
631	001432	000000	HLT		;V NOT CLEARED
632	001434	103001	BCC	.+4	
633	001436	000000	HLT		;C NOT CLEARED
634	001440	000240	SCOPE		
635	001442	000277	SCC		;CLEAR CONDITION CODES
636	001444	005051	CLR	2-(1)	;TEST THE CLR 2-(1) INSTRUCTIONS
637	001446	001401	BEQ	.+4	;BRANCH IF Z IS SET
638	001450	000000	HLT		;Z WAS NOT SET
639	001452	100001	BPL	.+4	
640	001454	000000	HLT		;N NOT CLEARED
641	001456	102001	BVC	.+4	
642	001460	000000	HLT		;V NOT CLEARED
643	001462	103001	BCC	.+4	
644	001464	000000	HLT		;C NOT CLEARED
645	001466	000240	SCOPE		
646	001470	000277	SCC		;CLEAR CONDITION CODES
647	001472	005052	CLR	2-(2)	;TEST THE CLR 2-(2) INSTRUCTIONS
648	001474	001401	BEQ	.+4	;BRANCH IF Z IS SET
649	001476	000000	HLT		;Z WAS NOT SET
650	001500	100001	BPL	.+4	
651	001502	000000	HLT		;N NOT CLEARED
652	001504	102001	BVC	.+4	
653	001506	000000	HLT		;V NOT CLEARED
654	001510	103001	BCC	.+4	
655	001512	000000	HLT		;C NOT CLEARED
656	001514	000240	SCOPE		
657	001516	000277	SCC		;CLEAR CONDITION CODES
658	001520	005053	CLR	2-(3)	;TEST THE CLR 2-(3) INSTRUCTIONS
659	001522	001401	BEQ	.+4	;BRANCH IF Z IS SET
660	001524	000000	HLT		;Z WAS NOT SET
661	001526	100001	BPL	.+4	
662	001530	000000	HLT		;N NOT CLEARED
663	001532	102001	BVC	.+4	
664	001534	000000	HLT		;V NOT CLEARED
665	001536	103001	BCC	.+4	
666	001540	000000	HLT		;C NOT CLEARED

667	001542	000240		SCOPE		
668	001544	000277		SCC		;CLEAR CONDITION CODES
669	001546	005054		CLR	0-(4)	;TEST THE CLR 0-(4) INSTRUCTIONS
670	001550	001401		BEQ	.+4	;BRANCH IF Z IS SET
671	001552	000000		HLT		;Z WAS NOT SET
672	001554	100001		BPL	.+4	
673	001556	000000		HLT		;N NOT CLEARED
674	001560	102001		BVC	.+4	
675	001562	000000		HLT		;V NOT CLEARED
676	001564	103001		BCC	.+4	
677	001566	000000		HLT		;C NOT CLEARED
678	001570	000240		SCOPE		
679	001572	000277		SCC		;CLEAR CONDITION CODES
680	001574	005055		CLR	0-(5)	;TEST THE CLR 0-(5) INSTRUCTIONS
681	001576	001401		BEQ	.+4	;BRANCH IF Z IS SET
682	001600	000000		HLT		;Z WAS NOT SET
683	001602	100001		BPL	.+4	
684	001604	000000		HLT		;N NOT CLEARED
685	001606	102001		BVC	.+4	
686	001610	000000		HLT		;V NOT CLEARED
687	001612	103001		BCC	.+4	
688	001614	000000		HLT		;C NOT CLEARED
689	001616	000240		SCOPE		
690	001620	000277		SCC		;CLEAR CONDITION CODES
691	001622	005060	000000	CLR	0(0)	;TEST THE CLR 0(0) INSTRUCTIONS
692	001626	001401		BEQ	.+4	;BRANCH IF Z IS SET
693	001630	000000		HLT		;Z WAS NOT SET
694	001632	100001		BPL	.+4	
695	001634	000000		HLT		;N NOT CLEARED
696	001636	102001		BVC	.+4	
697	001640	000000		HLT		;V NOT CLEARED
698	001642	103001		BCC	.+4	
699	001644	000000		HLT		;C NOT CLEARED
700	001646	000240		SCOPE		
701	001650	000277		SCC		;CLEAR CONDITION CODES
702	001652	005061	000000	CLR	0(1)	;TEST THE CLR 0(1) INSTRUCTIONS
703	001656	001401		BEQ	.+4	;BRANCH IF Z IS SET
704	001660	000000		HLT		;Z WAS NOT SET
705	001662	100001		BPL	.+4	
706	001664	000000		HLT		;N NOT CLEARED
707	001666	102001		BVC	.+4	
708	001670	000000		HLT		;V NOT CLEARED
709	001672	103001		BCC	.+4	
710	001674	000000		HLT		;C NOT CLEARED
711	001676	000240		SCOPE		
712	001700	000277		SCC		;CLEAR CONDITION CODES
713	001702	005062	000000	CLR	0(2)	;TEST THE CLR 0(2) INSTRUCTIONS
714	001706	001401		BEQ	.+4	;BRANCH IF Z IS SET
715	001710	000000		HLT		;Z WAS NOT SET
716	001712	100001		BPL	.+4	
717	001714	000000		HLT		;N NOT CLEARED
718	001716	102001		BVC	.+4	
719	001720	000000		HLT		;V NOT CLEARED
720	001722	103001		BCC	.+4	
721	001724	000000		HLT		;C NOT CLEARED
722	001726	000240		SCOPE		

723	001730	000277		SCL		;CLEAR CONDITION CODES
724	001732	005063	000000	CLR	0(3)	;TEST THE CLR 0(3) INSTRUCTIONS
725	001736	001401		BEQ	.+4	;BRANCH IF Z IS SET
726	001740	000000		HLT		;Z WAS NOT SET
727	001742	100001		BPL	.+4	
728	001744	000000		HLT		;N NOT CLEARED
729	001746	102001		BVC	.+4	
730	001750	000000		HLT		;V NOT CLEARED
731	001752	103001		BCC	.+4	
732	001754	000000		HLT		;C NOT CLEARED
733	001756	000240		SCOPE		
734	001760	000277		SCC		;CLEAR CONDITION CODES
735	001762	005064	000000	CLR	0(4)	;TEST THE CLR 0(4) INSTRUCTIONS
736	001766	001401		BEQ	.+4	;BRANCH IF Z IS SET
737	001770	000000		HLT		;Z WAS NOT SET
738	001772	100001		BPL	.+4	
739	001774	000000		HLT		;N NOT CLEARED
740	001776	102001		BVC	.+4	
741	002000	000000		HLT		;V NOT CLEARED
742	002002	103001		BCC	.+4	
743	002004	000000		HLT		;C NOT CLEARED
744	002006	000240		SCOPE		
745	002010	000277		SCC		;CLEAR CONDITION CODES
746	002012	005065	000000	CLR	0(5)	;TEST THE CLR 0(5) INSTRUCTIONS
747	002016	001401		BEQ	.+4	;BRANCH IF Z IS SET
748	002020	000000		HLT		;Z WAS NOT SET
749	002022	100001		BPL	.+4	
750	002024	000000		HLT		;N NOT CLEARED
751	002026	102001		BVC	.+4	
752	002030	000000		HLT		;V NOT CLEARED
753	002032	103001		BCC	.+4	
754	002034	000000		HLT		;C NOT CLEARED
755	002036	000240		SCOPE		
756	002040	000277		SCC		;CLEAR CONDITION CODES
757	002042	005070	000000	CLR	0(0)	;TEST THE CLR 0(0) INSTRUCTIONS
758	002046	001401		BEQ	.+4	;BRANCH IF Z IS SET
759	002050	000000		HLT		;Z WAS NOT SET
760	002052	100001		BPL	.+4	
761	002054	000000		HLT		;N NOT CLEARED
762	002056	102001		BVC	.+4	
763	002060	000000		HLT		;V NOT CLEARED
764	002062	103001		BCC	.+4	
765	002064	000000		HLT		;C NOT CLEARED
766	002066	000240		SCOPE		
767	002070	000277		SCC		;CLEAR CONDITION CODES
768	002072	005071	000000	CLR	0(1)	;TEST THE CLR 0(1) INSTRUCTIONS
769	002076	001401		BEQ	.+4	;BRANCH IF Z IS SET
770	002100	000000		HLT		;Z WAS NOT SET
771	002102	100001		BPL	.+4	
772	002104	000000		HLT		;N NOT CLEARED
773	002106	102001		BVC	.+4	
774	002110	000000		HLT		;V NOT CLEARED
775	002112	103001		BCC	.+4	
776	002114	000000		HLT		;C NOT CLEARED
777	002116	000240		SCOPE		
778	002120	000277		SCC		;CLEAR CONDITION CODES

779	002122	005072	000000	CLR	20(2)	;TEST THE CLR 20(2) INSTRUCTIONS
780	002126	001401		BEQ	.+4	;BRANCH IF Z IS SET
781	002130	000000		HLT		;Z WAS NOT SET
782	002132	100001		BPL	.+4	
783	002134	000000		HLT		;N NOT CLEARED
784	002136	102001		BVC	.+4	
785	002140	000000		HLT		;V NOT CLEARED
786	002142	103001		BCC	.+4	
787	002144	000000		HLT		;C NOT CLEARED
788	002146	000240		SCOPE		
789	002150	000277		SCC		;CLEAR CONDITION CODES
790	002152	005073	000000	CLR	20(3)	;TEST THE CLR 20(3) INSTRUCTIONS
791	002156	001401		BEQ	.+4	;BRANCH IF Z IS SET
792	002160	000000		HLT		;Z WAS NOT SET
793	002162	100001		BPL	.+4	
794	002164	000000		HLT		;N NOT CLEARED
795	002166	102001		BVC	.+4	
796	002170	000000		HLT		;V NOT CLEARED
797	002172	103001		BCC	.+4	
798	002174	000000		HLT		;C NOT CLEARED
799	002176	000240		SCOPE		
800	002200	000277		SCC		;CLEAR CONDITION CODES
801	002202	005074	000000	CLR	20(4)	;TEST THE CLR 20(4) INSTRUCTIONS
802	002206	001401		BEQ	.+4	;BRANCH IF Z IS SET
803	002210	000000		HLT		;Z WAS NOT SET
804	002212	100001		BPL	.+4	
805	002214	000000		HLT		;N NOT CLEARED
806	002216	102001		BVC	.+4	
807	002220	000000		HLT		;V NOT CLEARED
808	002222	103001		BCC	.+4	
809	002224	000000		HLT		;C NOT CLEARED
810	002226	000240		SCOPE		
811	002230	000277		SCC		;CLEAR CONDITION CODES
812	002232	005075	000000	CLR	20(5)	;TEST THE CLR 20(5) INSTRUCTIONS
813	002236	001401		BEQ	.+4	;BRANCH IF Z IS SET
814	002240	000000		HLT		;Z WAS NOT SET
815	002242	100001		BPL	.+4	
816	002244	000000		HLT		;N NOT CLEARED
817	002246	102001		BVC	.+4	
818	002250	000000		HLT		;V NOT CLEARED
819	002252	103001		BCC	.+4	
820	002254	000000		HLT		;C NOT CLEARED
821	002256	000240		SCOPE		
822	002260	000277		SCC		;CLEAR CONDITION CODES
823	002262	005067	175512	CLR	0	;TEST THE CLR 0 INSTRUCTIONS
824	002266	001401		BEQ	.+4	;BRANCH IF Z IS SET
825	002270	000000		HLT		;Z WAS NOT SET
826	002272	100001		BPL	.+4	
827	002274	000000		HLT		;N NOT CLEARED
828	002276	102001		BVC	.+4	
829	002300	000000		HLT		;V NOT CLEARED
830	002302	103001		BCC	.+4	
831	002304	000000		HLT		;C NOT CLEARED
832	002306	000240		SCOPE		
833	002310	000277		SCC		;CLEAR CONDITION CODES
834	002312	005027	000177	CLR	#177	;TEST THE CLR #177 INSTRUCTIONS

835	002316	001401	BEQ	.+4	;BRANCH IF Z IS SET
836	002320	000000	HLT		;Z WAS NOT SET
837	002322	100001	BPL	.+4	
838	002324	000000	HLT		;N NOT CLEARED
839	002326	102001	BVC	.+4	
840	002330	000000	HLT		;V NOT CLEARED
841	002332	103001	SCC	.+4	
842	002334	000000	HLT		;C NOT CLEARED

843	002336	000240	
844	002340	000277	
845	002342	005037	000000
846	002346	001401	
847	002350	000000	
848	002352	100001	
849	002354	000000	
850	002356	102001	
851	002360	000000	
852	002362	103001	
853	002364	000000	
854			
855			

SCOPE	
SCC	
CLR	2#0
BEQ	+.4
HLT	
BPL	+.4
HLT	
BVC	+.4
HLT	
BCC	+.4
HLT	
:SUBTEST 2	

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;CLEAR CONDITION CODES
;TEST THE CLR 2#0 INSTRUCTIONS
;BRANCH IF Z IS SET
;Z WAS NOT SET
;N NOT CLEARED
;V NOT CLEARED
;C NOT CLEARED

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856					
857	002366	000240	SCOPE		
858	002370	005000	CLR	%0	;SET UP FOR TEST
859	002372	000277	SCC		
860	002374	000250	CLN		;SET CONDITION CODES & CLEAR N
861	002376	005100	COM	%0	;COM %0 SHOULD CLR Z
862	002400	001001	BNE	+.4	;BRANCH IF Z CLEARED
863	002402	000000	HLT		;COM %0 DID NOT CLEAR Z
864	002404	100401	BMI	+.4	;BRANCH IF "N" SET
865	002406	000000	HLT		;COM %0 DID NOT SET N
866	002410	102001	BVC	+.4	
867	002412	000000	HLT		;V NOT CLEARED
868	002414	103401	BCS	+.4	
869	002416	000000	HLT		;C NOT SET
870	002420	000240	SCOPE		
871	002422	005000	CLR	%0	;DATA = 0000001
872	002424	005100	COM	%0	;DATA = 177777
873	002426	005100	COM	%0	;DATA = 000000
874	002430	001401	BEQ	+.4	
875	002432	000000	HLT		;Z NOT SET
876	002434	100001	BPL	+.4	
877	002436	000000	HLT		;N NOT CLEARED
878	002440	102001	BVC	+.4	
879	002442	000000	HLT		;V NOT CLEARED
880	002444	103401	BCS	+.4	
881	002446	000000	HLT		;C NOT SET
882	002450	000240	SCOPE		
883	002452	005001	CLR	%1	;SET UP FOR TEST
884	002454	000277	SCC		
885	002456	000250	CLN		;SET CONDITION CODES & CLEAR N
886	002460	005101	COM	%1	;COM %1 SHOULD CLR Z
887	002462	001001	BNE	+.4	;BRANCH IF Z CLEARED
888	002464	000000	HLT		;COM %1 DID NOT CLEAR Z
889	002466	100401	BMI	+.4	;BRANCH IF "N" SET
890	002470	000000	HLT		;COM %1 DID NOT SET N
891	002472	102001	BVC	+.4	
892	002474	000000	HLT		;V NOT CLEARED
893	002476	103401	BCS	+.4	
894	002500	000000	HLT		;C NOT SET
895	002502	000240	SCOPE		
896	002504	005001	CLR	%1	;DATA = 0000001
897	002506	005101	COM	%1	;DATA = 177777
898	002510	005101	COM	%1	;DATA = 000000
899	002512	001401	BEQ	+.4	
900	002514	000000	HLT		;Z NOT SET
901	002516	100001	BPL	+.4	
902	002520	000000	HLT		;N NOT CLEARED
903	002522	102001	BVC	+.4	
904	002524	000000	HLT		;V NOT CLEARED
905	002526	103401	BCS	+.4	
906	002530	000000	HLT		;C NOT SET
907	002532	000240	SCOPE		
908	002534	005002	CLR	%2	;SET UP FOR TEST
909	002536	000277	SCC		
910	002540	000250	CLN		;SET CONDITION CODES & CLEAR N
911	002542	005102	COM	%2	;COM %2 SHOULD CLR Z

912	002544	001001	BNE	.+4	;BRANCH IF Z CLEARED
913	002546	000000	HLT		;COM %2 DID NOT CLEAR Z
914	002550	100401	BMI	.+4	;BRANCH IF "N" SET
915	002552	000000	HLT		;COM %2 DID NOT SET N
916	002554	102001	BVC	.+4	
917	002556	000000	HLT		;V NOT CLEARED
918	002560	103401	BCS	.+4	
919	002562	000000	HLT		;C NOT SET
920	002564	000240	SCOPE		
921	002566	005002	CLR	%2	;DATA = 0000001
922	002570	005102	COM	%2	;DATA = 177777
923	002572	005102	COM	%2	;DATA = 000000
924	002574	001401	BEG	.+4	
925	002576	000000	HLT		;Z NOT SET
926	002600	100001	BPL	.+4	
927	002602	000000	HLT		;N NOT CLEARED
928	002604	102001	BVC	.+4	
929	002606	000000	HLT		;V NOT CLEARED
930	002610	103401	BCS	.+4	
931	002612	000000	HLT		;C NOT SET
932	002614	000240	SCOPE		
933	002616	005003	CLR	%3	;SET UP FOR TEST
934	002620	000277	SCC		
935	002622	000250	CLN		;SET CONDITION CODES & CLEAR N
936	002624	005103	COM	%3	;COM %3 SHOULD CLR Z
937	002626	001001	BNE	.+4	;BRANCH IF Z CLEARED
938	002630	000000	HLT		;COM %3 DID NOT CLEAR Z
939	002632	100401	BMI	.+4	;BRANCH IF "N" SET
940	002634	000000	HLT		;COM %3 DID NOT SET N
941	002636	102001	BVC	.+4	
942	002640	000000	HLT		;V NOT CLEARED
943	002642	103401	BCS	.+4	
944	002644	000000	HLT		;C NOT SET
945	002646	000240	SCOPE		
946	002650	005003	CLR	%3	;DATA = 0000001
947	002652	005103	COM	%3	;DATA = 177777
948	002654	005103	COM	%3	;DATA = 000000
949	002656	001401	BEG	.+4	
950	002660	000000	HLT		;Z NOT SET
951	002662	100001	BPL	.+4	
952	002664	000000	HLT		;N NOT CLEARED
953	002666	102001	BVC	.+4	
954	002670	000000	HLT		;V NOT CLEARED
955	002672	103401	BCS	.+4	
956	002674	000000	HLT		;C NOT SET

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957	002676	000240	SCOPE		
958	002700	005004	CLR	%4	;SET UP FOR TEST
959	002702	000277	SCC		
960	002704	000250	CLN		;SET CONDITION CODES & CLEAR N
961	002706	005104	COM	%4	;COM %4 SHOULD CLR Z
962	002710	001001	BNE	.+4	;BRANCH IF Z CLEARED
963	002712	000000	HLT		;COM %4 DID NOT CLEAR Z
964	002714	100401	BMI	.+4	;BRANCH IF "N" SET
965	002716	000000	HLT		;COM %4 DID NOT SET N
966	002720	102001	BVC	.+4	
967	002722	000000	HLT		;V NOT CLEARED
968	002724	103401	BCS	.+4	
969	002726	000000	HLT		;C NOT SET
970	002730	000240	SCOPE		
971	002732	005004	CLR	%4	;DATA = 0000001
972	002734	005104	COM	%4	;DATA = 177777
973	002736	005104	COM	%4	;DATA = 000000
974	002740	001401	BEQ	.+4	
975	002742	000000	HLT		;Z NOT SET
976	002744	100001	BPL	.+4	
977	002746	000000	HLT		;N NOT CLEARED
978	002750	102001	BVC	.+4	
979	002752	000000	HLT		;V NOT CLEARED
980	002754	103401	BCS	.+4	
981	002756	000000	HLT		;C NOT SET
982					
983					

;SUBTEST 3

984					
985	002760	000240	SCOPE		
986	002762	000277	SCC		;SET CONDITION CODES
987	002764	005000	CLR	%0	;CLR %0 = 000000
988	002766	005200	INC	%0	;INC %0 = 000001
989	002770	001001	BNE	.+4	;BRANCH IF Z CLEARED
990	002772	000000	HLT		;Z NOT CLEARED
991	002774	100001	BPL	.+4	;BRANCH IF N CLEARED
992	002776	000000	HLT		;N NOT CLEARED
993	003000	102001	BVC	.+4	
994	003002	000000	HLT		;V NOT CLEARED
995	003004	103001	BCC	.+4	
996	003006	000000	HLT		;C NOT CLEARED
997	003010	000240	SCOPE		
998	003012	005000	CLR	%0	;%0=ZERO
999	003014	005100	COM	%0	;%0=177777, SET C
1000	003016	005200	INC	%0	;%0=ZERO
1001	003020	001401	BEQ	.+4	;BRANCH IF Z SET
1002	003022	000000	HLT		;Z NOT SET
1003	003024	102001	BVC	.+4	
1004	003026	000000	HLT		;V NOT CLEARED
1005	003030	103401	BCS	.+4	
1006	003032	000000	HLT		;C NOT SET
1007	003034	000240	SCOPE		
1008	003036	012700	MOV #	77777,%0	;POSITIVE NUMBER
1009	003042	000257	CCC		;CLEAR CODES
1010	003044	005200	INC	%0	;077777 TO 100000, SET V
1011	003046	100401	BMI	.+4	
1012	003050	000000	HLT		;N NOT SET
1013	003052	102401	BVS	.+4	
1014	003054	000000	HLT		;V NOT SET
1015	003056	001001	BNE	.+4	
1016	003060	000000	HLT		;Z NOT CLEARED
1017	003062	103001	BCC	.+4	
1018	003064	000000	HLT		;C NOT CLEARED
1019	003066	000240	SCOPE		
1020	003070	000277	SCC		;SET CONDITION CODES
1021	003072	005001	CLR	%1	;CLR %1 = 000000
1022	003074	005201	INC	%1	;INC %1 = 000001
1023	003076	001001	BNE	.+4	;BRANCH IF Z CLEARED
1024	003100	000000	HLT		;Z NOT CLEARED
1025	003102	100001	BPL	.+4	;BRANCH IF N CLEARED
1026	003104	000000	HLT		;N NOT CLEARED
1027	003106	102001	BVC	.+4	
1028	003110	000000	HLT		;V NOT CLEARED
1029	003112	103001	BCC	.+4	
1030	003114	000000	HLT		;C NOT CLEARED
1031	003116	000240	SCOPE		
1032	003120	005001	CLR	%1	;%1=ZERO
1033	003122	005101	COM	%1	;%1=177777, SET C
1034	003124	005201	INC	%1	;%1=ZERO
1035	003126	001401	BEQ	.+4	;BRANCH IF Z SET
1036	003130	000000	HLT		;Z NOT SET
1037	003132	102001	BVC	.+4	
1038	003134	000000	HLT		;V NOT CLEARED
1039	003136	103401	BCS	.+4	

077777

1040	003140	000000		HLT			;C NOT SET
1041	003142	000240		SCOPE			
1042	003144	012701	077777	MOV #	77777,%1		;POSITIVE NUMBER
1043	003150	000257		CCC			;CLEAR CODES
1044	003152	005201		INC	%1		;077777 TO 100000, SET V
1045	003154	100401		BMI	+.4		
1046	003156	000000		HLT			;N NOT SET
1047	003160	102401		BVS	+.4		
1048	003162	000000		HLT			;V NOT SET
1049	003164	001001		BNE	+.4		
1050	003166	000000		HLT			;Z NOT CLEARED
1051	003170	103001		BCC	+.4		
1052	003172	000000		HLT			;C NOT CLEARED
1053	003174	000240		SCOPE			
1054	003176	000277		SCC			;SET CONDITION CODES
1055	003200	005002		CLR	%2		;CLR %2 = 000000
1056	003202	005202		INC	%2		;INC %2 = 000001
1057	003204	001001		BNE	+.4		;BRANCH IF Z CLEARED
1058	003206	000000		HLT			;Z NOT CLEARED
1059	003210	100001		BPL	+.4		;BRANCH IF N CLEARED
1060	003212	000000		HLT			;N NOT CLEARED
1061	003214	102001		BVC	+.4		
1062	003216	000000		HLT			;V NOT CLEARED
1063	003220	103001		BCC	+.4		
1064	003222	000000		HLT			;C NOT CLEARED
1065	003224	000240		SCOPE			
1066	003226	005002		CLR	%2		;%2=ZERO
1067	003230	005102		COM	%2		;%2=177777, SET C
1068	003232	005202		INC	%2		;%2=ZERO
1069	003234	001401		BEQ	+.4		;BRANCH IF Z SET
1070	003236	000000		HLT			;Z NOT SET
1071	003240	102001		BVC	+.4		
1072	003242	000000		HLT			;V NOT CLEARED
1073	003244	103401		BCS	+.4		
1074	003246	000000		HLT			;C NOT SET
1075	003250	000240		SCOPE			
1076	003252	012702	077777	MOV #	77777,%2		;POSITIVE NUMBER
1077	003256	000257		CCC			;CLEAR CODES
1078	003260	005202		INC	%2		;077777 TO 100000, SET V
1079	003262	100401		BMI	+.4		
1080	003264	000000		HLT			;N NOT SET
1081	003266	102401		BVS	+.4		
1082	003270	000000		HLT			;V NOT SET
1083	003272	001001		BNE	+.4		
1084	003274	000000		HLT			;Z NOT CLEARED
1085	003276	103001		BCC	+.4		
1086	003300	000000		HLT			;C NOT CLEARED
1087	003302	000240		SCOPE			
1088	003304	000277		SCC			;SET CONDITION CODES
1089	003306	005003		CLR	%3		;CLR %3 = 000000
1090	003310	005203		INC	%3		;INC %3 = 000001
1091	003312	001001		BNE	+.4		;BRANCH IF Z CLEARED
1092	003314	000000		HLT			;Z NOT CLEARED
1093	003316	100001		BPL	+.4		;BRANCH IF N CLEARED
1094	003320	000000		HLT			;N NOT CLEARED
1095	003322	102001		BVC	+.4		

1096	003324	000000		HLT			;V NOT CLEARED
1097	003326	103001		BCC	.+4		
1098	003330	000000		HLT			;C NOT CLEARED
1099	003332	000240		SCOPE			
1100	003334	005003		CLR	%3		;%3=ZERO
1101	003336	005103		COM	%3		;%3=177777, SET C
1102	003340	005203		INC	%3		;%3=ZERO
1103	003342	001401		BEQ	.+4		;BRANCH IF Z SET
1104	003344	000000		HLT			;Z NOT SET
1105	003346	102001		BVC	.+4		
1106	003350	000000		HLT			;V NOT CLEARED
1107	003352	103401		BCS	.+4		
1108	003354	000000		HLT			;C NOT SET
1109	003356	000240		SCOPE			
1110	003360	012703	077777	MOV #	77777,%3		;POSITIVE NUMBER
1111	003364	000257		CCC			;CLEAR CODES
1112	003366	005203		INC	%3		;077777 TO 100000, SET V
1113	003370	100401		BMI	.+4		
1114	003372	000000		HLT			;N NOT SET
1115	003374	102401		BVS	.+4		
1116	003376	000000		HLT			;V NOT SET
1117	003400	001001		BNE	.+4		
1118	003402	000000		HLT			;Z NOT CLEARED
1119	003404	103001		BCC	.+4		
1120	003406	000000		HLT			;C NOT CLEARED

```

1131 003410 000000
1132 003412 000000
1133 003414 005005
1134 003416 005205
1135 003418 001001
1136 003420 000000
1137 003422 100001
1138 003424 000000
1139 003426 102001
1140 003428 000000
1141 003430 103001
1142 003432 000000
1143 003434 000000
1144 003436 000240
1145 003438 005005
1146 003440 005105
1147 003442 005205
1148 003444 001401
1149 003446 000000
1150 003448 102001
1151 003450 000000
1152 003452 103401
1153 003454 000000
1154 003456 000000
1155 003458 000240
1156 003460 012705
1157 003462 000257
1158 003464 005205
1159 003466 100401
1160 003468 000000
1161 003470 102401
1162 003472 000000
1163 003474 001001
1164 003476 000000
1165 003478 103001
1166 003480 000000

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077777

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SCOPE
SCC
CLR .+4
INC .+4
BNE .+4
HLT
BPL .+4
HLT
BVC .+4
HLT
BCC .+4
HLT
SCOPE
CLR %5
COH %5
INC %5
BEQ .+4
HLT
BVC .+4
HLT
BCS .+4
HLT
SCOPE
MOV # 77777,%5
CCC
INC %5
BMI .+4
HLT
BVS .+4
HLT
BNE .+4
HLT
BCC .+4
HLT
;SUBTEST 4

```

```

;SET CONDITION CODES
;CLR %5 = 00000
;INC %5 = 00001
;BRANCH IF Z CLEARED
;Z NOT CLEARED
;BRANCH IF N CLEARED
;N NOT CLEARED
;V NOT CLEARED
;C NOT CLEARED
;%5=ZERO
;%5=177777, SET C
;%5=ZERO
;BRANCH IF Z SET
;Z NOT SET
;V NOT CLEARED
;C NOT SET
;POSITIVE NUMBER
;CLEAR CODES
;077777 TO 100000, SET V
;N NOT SET
;V NOT SET
;Z NOT CLEARED
;C NOT CLEARED

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1157					
1158	003516	000240		SCOPE	
1159	003520	005000		CLR	:0
1160	003522	000277		SCC	:%0=000000
1161	003524	000250		CLN	:SET Z
1162	003526	005300		DEC	:CLEAR N
1163	003530	001001		BNE	:%0=177777, Z=0, N=1
1164	003532	000000		HLT	:BRANCH IF Z CLEARED
1165	003534	100401		BMI	:Z WAS NOT CLEARED
1166	003536	000000		HLT	:BRANCH IF N SET
1167	003540	102001		BVC	:N WAS NOT SET
1168	003542	000000		HLT	:V NOT CLEARED
1169	003544	103401		SCS	:DEC SHOULD NOT CHANGE C
1170	003546	000000		HLT	:C NOT SET
1171	003550	000240		SCOPE	
1172	003552	000257		CCC	:CLEAR CONDITION CODES
1173	003554	012700	100000	MOV #	:NEGATIVE NUMBER
1174	003556	005300		DEC	:DATA = 077777, POSITIVE NUMBER
1175	003552	100001		BPL	
1176	003554	000000		HLT	
1177	003556	001001		BNE	
1178	003570	000000		HLT	
1179	003572	102401		BVS	:NEG TO POST SET V
1180	003574	000000		HLT	:V NOT SET
1181	003576	103001		BCC	
1182	003600	000000		HLT	:C NOT CLEARED
1183	003602	000240		SCOPE	
1184	003604	005001		CLR	:%1=000000
1185	003606	000277		SCC	:SET Z
1186	003610	000250		CLN	:CLEAR N
1187	003612	005301		DEC	:%1=177777, Z=0, N=1
1188	003614	001001		BNE	:BRANCH IF Z CLEARED
1189	003616	000000		HLT	:Z WAS NOT CLEARED
1190	003620	100401		BMI	:BRANCH IF N SET
1191	003622	000000		HLT	:N WAS NOT SET
1192	003624	102001		BVC	
1193	003626	000000		HLT	:V NOT CLEARED
1194	003630	103401		BCS	:DEC SHOULD NOT CHANGE C
1195	003632	000000		HLT	:C NOT SET
1196	003634	000240		SCOPE	
1197	003636	000257		CCC	:CLEAR CONDITION CODES
1198	003640	012701	100000	MOV #	:NEGATIVE NUMBER
1199	003644	005301		DEC	:DATA = 077777, POSITIVE NUMBER
1200	003646	100001		BPL	
1201	003650	000000		HLT	
1202	003652	001001		BNE	
1203	003654	000000		HLT	
1204	003656	102401		BVS	:NEG TO POST SET V
1205	003660	000000		HLT	:V NOT SET
1206	003662	103001		BCC	
1207	003664	000000		HLT	:C NOT CLEARED
1208	003666	000240		SCOPE	
1209	003670	005002		CLR	:%2=000000
1210	003672	000277		SCC	:SET Z
1211	003674	000250		CLN	:CLEAR N
1212	003676	005302		DEC	:%2=177777, Z=0, N=1

1213	003700	001001		BNE	.+4		;BRANCH IF Z CLEARED
1214	003702	000000		HLT			;Z WAS NOT CLEARED
1215	003704	100401		BMI	.+4		;BRANCH IF N SET
1216	003706	000000		HLT			;N WAS NOT SET
1217	003710	102001		BVC	.+4		
1218	003712	000000		HLT			;V NOT CLEARED
1219	003714	103401		BCS	.+4		;DEC SHOULD NOT CHANGE C
1220	003716	000000		HLT			;C NOT SET
1221	003720	000240		SCOPE			
1222	003722	000257		CCC			;CLEAR CONDITION CODES
1223	003724	012702	100000	MOV #	100000,%2		;NEGATIVE NUMBER
1224	003730	005302		DEC	%2		;DATA = 077777, POSITIVE NUMBER
1225	003732	100001		BPL	.+4		
1226	003734	000000		HLT			
1227	003736	001001		BNE	.+4		
1228	003740	000000		HLT			
1229	003742	102401		BVS	.+4		;NEG TO POST SET V
1230	003744	000000		HLT			;V NOT SET
1231	003746	103001		BCC	.+4		
1232	003750	000000		HLT			;C NOT CLEARED
1233	003752	000240		SCOPE			
1234	003754	005004		CLR	%4		;%4=000000
1235	003756	000277		SCC			;SET Z
1236	003760	000250		CLN			;CLEAR N
1237	003762	005304		DEC	%4		;%4=177777, Z=0, N=1
1238	003764	001001		BNE	.+4		;BRANCH IF Z CLEARED
1239	003766	000000		HLT			;Z WAS NOT CLEARED
1240	003770	100401		BMI	.+4		;BRANCH IF N SET
1241	003772	000000		HLT			;N WAS NOT SET
1242	003774	102001		BVC	.+4		
1243	003776	000000		HLT			;V NOT CLEARED
1244	004000	103401		BCS	.+4		;DEC SHOULD NOT CHANGE C
1245	004002	000000		HLT			;C NOT SET
1246	004004	000240		SCOPE			
1247	004006	000257		CCC			;CLEAR CONDITION CODES
1248	004010	012704	100000	MOV #	100000,%4		;NEGATIVE NUMBER
1249	004014	005304		DEC	%4		;DATA = 077777, POSITIVE NUMBER
1250	004016	100001		BPL	.+4		
1251	004020	000000		HLT			
1252	004022	001001		BNE	.+4		
1253	004024	000000		HLT			
1254	004026	102401		BVS	.+4		;NEG TO POST SET V
1255	004030	000000		HLT			;V NOT SET
1256	004032	103001		BCC	.+4		
1257	004034	000000		HLT			;C NOT CLEARED

1258	004036	000240		SCOPE		
1259	004040	005005		CLR	%5	;%5=000000
1260	004042	000277		SCC		;SET Z
1261	004044	000250		CLN		;CLEAR N
1262	004046	005305		DEC	%5	;%5=177777, Z=0, N=1
1263	004050	001001		BNE	.+4	;BRANCH IF Z CLEARED
1264	004052	000000		HLT		;Z WAS NOT CLEARED
1265	004054	100401		BMI	.+4	;BRANCH IF N SET
1266	004056	000000		HLT		;N WAS NOT SET
1267	004060	102001		BVC	.+4	
1268	004062	000000		HLT		;V NOT CLEARED
1269	004064	103401		BCS	.+4	;DEC SHOULD NOT CHANGE C
1270	004066	000000		HLT		;C NOT SET
1271	004070	000240		SCOPE		
1272	004072	000257		CCC		;CLEAR CONDITION CODES
1273	004074	012705	100000	MOV #	100000,%5	;NEGATIVE NUMBER
1274	004100	005305		DEC	%5	;DATA = 077777, POSITIVE NUMBER
1275	004102	100001		BPL	.+4	
1276	004104	000000		HLT		
1277	004106	001001		BNE	.+4	
1278	004110	000000		HLT		
1279	004112	102401		BVS	.+4	;NEG TO POST SET V
1280	004114	000000		HLT		;V NOT SET
1281	004116	103001		BCC	.+4	
1282	004120	000000		HLT		;C NOT CLEARED
1283						
1284				;OPART2		
1285		000000		HLT=HALT		
1286		000240		SCOPE=240		
1287				;SUBTEST - 5		

1288					
1289	004122	000240		SCOPE	;SUBTRACT TYPE OPERATIONS!!!!
1290	004124	005000		CLR	;CLEAR %0
1291	004126	000277		SCC	;N=1, Z=0
1292	004130	005400		NEG	;NEG %0 SHOULD, ZERO N AND SET Z
1293	004132	001401		BEQ	;BRANCH IF Z SET
1294	004134	000000		HLT	;Z NOT CLEARED
1295	004136	100001		BPL	;BRANCH IF N CLEARED
1296	004140	000000		HLT	;NEG %0 DID NOT CLEAR "N"
1297	004142	103001		BCC	
1298	004144	000000		HLT	;C NOT CLEARED
1299	004146	102001		BVC	
1300	004150	000000		HLT	;V NOT CLEARED
1301					
1302	004152	000240		SCOPE	
1303	004154	005000		CLR	;DATA=000000
1304	004156	005200		INC	;DATA=000001
1305	004160	000277		SCC	;SET Z, SET C
1306	004162	000250		CLN	;CLEAR N
1307	004164	005400		NEG	;DATA=177777
1308	004166	001001		BNE	;BRANCH IF Z CLEARED
1309	004170	000000		HLT	;NEG %0 DID NOT CLEAR Z
1310	004172	100401		BMI	;BRANCH IF N SET
1311	004174	000000		HLT	;NEG %0 DID NOT SET N
1312	004176	102001		BVC	
1313	004200	000000		HLT	;V NOT SET
1314	004202	103401		BCS	
1315	004204	000000		HLT	;C NOT SET
1316	004206	000240		SCOPE	
1317	004210	012700	100000	MOV #	100000,%0
1318	004214	000257		CCC	
1319	004216	005400		NEG	;SHOULD SET V
1320	004220	001001		BNE	
1321	004222	000000		HLT	;Z NOT CLEARED
1322	004224	100401		BMI	
1323	004226	000000		HLT	;N NOT SET
1324	004230	102401		BVS	
1325	004232	000000		HLT	;V NOT SET
1326	004234	103401		BCS	
1327	004236	000000		HLT	;C NOT SET
1328	004240	000240		SCOPE	
1329	004242	012700	077777	MOV #	77777,%0
1330	004246	005400		NEG	;DATA = 100001
1331	004250	102001		BVC	
1332	004252	000000		HLT	;V NOT CLEARED
1333	004254	001001		BNE	
1334	004256	000000		HLT	;Z NOT CLEARED
1335	004260	100401		BMI	
1336	004262	000000		HLT	;N NOT SET
1337	004264	103401		BCS	
1338	004266	000000		HLT	;C NOT CLEARED
1339					
1340	004270	000240		SCOPE	;SUBTRACT TYPE OPERATIONS!!!!
1341	004272	005001		CLR	;CLEAR %1
1342	004274	000277		SCC	;N=1, Z=0
1343	004276	005401		NEG	;NEG %1 SHOULD, ZERO N AND SET Z

1344	004300	001401		BEQ	.+4	;BRANCH IF Z SET
1345	004302	000000		HLT		;Z NOT CLEARED
1346	004304	100001		BPL	.+4	;BRANCH IF N CLEARED
1347	004306	000000		HLT		;NEG %1 DID NOT CLEAR "N"
1348	004310	103001		BCC	.+4	
1349	004312	000000		HLT		;C NOT CLEARED
1350	004314	102001		BVC	.+4	
1351	004316	000000		HLT		;V NOT CLEARED
1352						
1353	004320	000240		SCOPE		
1354	004322	005001		CLR	%1	;DATA=000000
1355	004324	005201		INC	%1	;DATA=000001
1356	004326	000277		SCC		;SET Z, SET C
1357	004330	000250		CLN		;CLEAR N
1358	004332	005401		NEG	%1	;DATA=177777
1359	004334	001001		BNE	.+4	;BRANCH IF Z CLEARED
1360	004336	000000		HLT		;NEG %1 DID NOT CLEAR Z
1361	004340	100401		BMI	.+4	;BRANCH IF N SET
1362	004342	000000		HLT		;NEG %1 DID NOT SET N
1363	004344	102001		BVC	.+4	
1364	004346	000000		HLT		;V NOT SET
1365	004350	003401		BCS	.+4	
1366	004352	000000		HLT		;C NOT SET
1367	004354	000240		SCOPE		
1368	004356	012701	100000	MOV #	!00000,%1	
1369	004362	000257		CCC		
1370	004364	005401		NEG	%1	;SHOULD SET V
1371	004366	001001		BNE	.+4	
1372	004370	000000		HLT		;Z NOT CLEARED
1373	004372	100401		BMI	.+4	
1374	004374	000000		HLT		;N NOT SET
1375	004376	102401		BVS	.+4	
1376	004400	000000		HLT		;V NOT SET
1377	004402	103401		BCS	.+4	
1378	004404	000000		HLT		;C NOT SET
1379	004406	000240		SCOPE		
1380	004410	012701	077777	MOV #	77777,%1	
1381	004414	005401		NEG	%1	;DATA = 100001
1382	004416	102001		BVC	.+4	
1383	004420	000000		HLT		;V NOT CLEARED
1384	004422	001001		BNE	.+4	
1385	004424	000000		HLT		;Z NOT CLEARED
1386	004426	100401		BMI	.+4	
1387	004430	000000		HLT		;N NOT SET
1388	004432	103401		BCS	.+4	
1389	004434	000000		HLT		;C NOT CLEARED
1390						
1391	004436	000240		SCOPE		;SUBTRACT TYPE OPERATIONS!!!!
1392	004440	005003		CLR	%3	;CLEAR %3
1393	004442	000277		SCC		;N=1, Z=0
1394	004444	005403		NEG	%3	;NEG %3 SHOULD, ZERO N AND SET Z
1395	004446	001401		BEQ	.+4	;BRANCH IF Z SET
1396	004450	000000		HLT		;Z NOT CLEARED
1397	004452	100001		BPL	.+4	;BRANCH IF N CLEARED
1398	004454	000000		HLT		;NEG %3 DID NOT CLEAR "N"
1399	004456	!03001		BCC	.+4	

1400	004460	000000		HLT		;C NOT CLEARED
1401	004462	102001		BVC	.+4	
1402	004464	000000		HLT		;V NOT CLEARED
1403						
1404	004466	000240		SCOPE		
1405	004470	005003		CLR	%3	;DATA=000000
1406	004472	005203		INC	%3	;DATA=000001
1407	004474	000277		SCC		;SET Z, SET C
1408	004476	000250		CLN		;CLEAR N
1409	004500	005403		NEG	%3	;DATA=177777
1410	004502	001001		BNE	.+4	;BRANCH IF Z CLEARED
1411	004504	000000		HLT		;NEG %3 DID NOT CLEAR Z
1412	004506	100401		BMI	.+4	;BRANCH IF N SET
1413	004510	000000		HLT		;NEG %3 DID NOT SET N
1414	004512	102001		BVC	.+4	
1415	004514	000000		HLT		;V NOT SET
1416	004516	103401		BCS	.+4	
1417	004520	000000		HLT		;C NOT SET
1418	004522	000240		SCOPE		
1419	004524	012703	100000	MOV #	100000,%3	
1420	004530	000257		CCC		
1421	004532	005403		NEG	%3	;SHOULD SET V
1422	004534	001001		BNE	.+4	
1423	004536	000000		HLT		;Z NOT CLEARED
1424	004540	100401		BMI	.+4	
1425	004542	000000		HLT		;N NOT SET
1426	004544	102401		BVS	.+4	
1427	004546	000000		HLT		;V NOT SET
1428	004550	103401		BCS	.+4	
1429	004552	000000		HLT		;C NOT SET
1430	004554	000240		SCOPE		
1431	004556	012703	077777	MOV #	77777,%3	
1432	004562	005403		NEG	%3	;DATA = 100001
1433	004564	102001		BVC	.+4	
1434	004566	000000		HLT		;V NOT CLEARED
1435	004570	001001		BNE	.+4	
1436	004572	000000		HLT		;Z NOT CLEARED
1437	004574	100401		BMI	.+4	
1438	004576	000000		HLT		;N NOT SET
1439	004600	103401		BCS	.+4	
1440	004602	000000		HLT		;C NOT CLEARED
1441						
1442	004604	000240		SCOPE		;SUBTRACT TYPE OPERATIONS!!!!
1443	004606	005004		CLR	%4	;CLEAR %4
1444	004610	000277		SCC		;N=1, Z=0
1445	004612	005404		NEG	%4	;NEG %4 SHOULD ZERO N AND SET Z
1446	004614	001401		BEQ	.+4	;BRANCH IF Z SET
1447	004616	000000		HLT		;Z NOT CLEARED
1448	004620	100001		BPL	.+4	;BRANCH IF N CLEARED
1449	004622	000000		HLT		;NEG %4 DID NOT CLEAR "N"
1450	004624	103001		BCC	.+4	
1451	004626	000000		HLT		;C NOT CLEARED
1452	004630	102001		BVC	.+4	
1453	004632	000000		HLT		;V NOT CLEARED
1454						
1455	004634	000240		SCOPE		

1456	004636	005004		CLR	%4	;DATA=000000
1457	004640	005204		INC	%4	;DATA=000001
1458	004642	000277		SCC		;SET Z, SET C
1459	004644	000250		CLN		;CLEAR N
1460	004646	005404		NEG	%4	;DATA=177777
1461	004650	001001		BNE	.+4	;BRANCH IF Z CLEARED
1462	004652	000000		HLT		;NEG %4 DID NOT CLEAR Z
1463	004654	100401		BMI	.+4	;BRANCH IF N SET
1464	004656	000000		HLT		;NEG %4 DID NOT SET N
1465	004660	102001		BVC	.+4	
1466	004662	000000		HLT		;V NOT SET
1467	004664	103401		BCS	.+4	
1468	004666	000000		HLT		;C NOT SET
1469	004670	000240		SCOPE		
1470	004672	012704	100000	MOV #	100000,%4	
1471	004676	000257		CCC		
1472	004700	005404		NEG	%4	;SHOULD SET V
1473	004702	001001		BNE	.+4	
1474	004704	000000		HLT		;Z NOT CLEARED
1475	004706	100401		BMI	.+4	
1476	004710	000000		HLT		;N NOT SET
1477	004712	102401		BVS	.+4	
1478	004714	000000		HLT		;V NOT SET
1479	004716	103401		BCS	.+4	
1480	004720	000000		HLT		;C NOT SET
1481	004722	000240		SCOPE		
1482	004724	012704	077777	MOV #	77777,%4	
1483	004730	005404		NEG	%4	;DATA = 100001
1484	004732	102001		BVC	.+4	
1485	004734	000000		HLT		;V NOT CLEARED
1486	004736	001001		BNE	.+4	
1487	004740	000000		HLT		;Z NOT CLEARED
1488	004742	100401		BMI	.+4	
1489	004744	000000		HLT		;N NOT SET
1490	004746	103401		BCS	.+4	
1491	004750	000000		HLT		;C NOT CLEARED
1492						

1493	004752	000240		SCOPE		;SUBTRACT TYPE OPERATIONS!!!!
1494	004754	005005		CLR	%5	;CLEAR %5
1495	004756	000277		SCC		;N=1. Z=0
1496	004760	005405		NEG	%5	;NEG %5 SHOULD ZERO N AND SET Z
1497	004762	001401		BEQ	.+4	;BRANCH IF Z SET
1498	004764	000000		HLT		;Z NOT CLEARED
1499	004766	100001		BPL	.+4	;BRANCH IF N CLEARED
1500	004770	000000		HLT		;NEG %5 DID NOT CLEAR "N"
1501	004772	103001		BCC	.+4	
1502	004774	000000		HLT		;C NOT CLEARED
1503	004776	102001		BVC	.+4	
1504	005000	000000		HLT		;V NOT CLEARED
1505						
1506	005002	000240		SCOPE		
1507	005004	005005		CLR	%5	;DATA=000000
1508	005006	005205		INC	%5	;DATA=000001
1509	005010	000277		SCC		;SET Z, SET C
1510	005012	000250		CLN		;CLEAR N
1511	005014	005405		NEG	%5	;DATA=177777
1512	005016	001001		BNE	.+4	;BRANCH IF Z CLEARED
1513	005020	000000		HLT		;NEG %5 DID NOT CLEAR Z
1514	005022	100401		BMI	.+4	;BRANCH IF N SET
1515	005024	000000		HLT		;NEG %5 DID NOT SET N
1516	005026	102001		BVC	.+4	
1517	005030	000000		HLT		;V NOT SET
1518	005032	103401		BCS	.+4	
1519	005034	000000		HLT		;C NOT SET
1520	005036	000240		SCOPE		
1521	005040	012705	100000	MOV #	100000,%5	
1522	005044	000257		CCC		
1523	005046	005405		NEG	%5	;SHOULD SET V
1524	005050	001001		BNE	.+4	
1525	005052	000000		HLT		;Z NOT CLEARED
1526	005054	100401		BMI	.+4	
1527	005056	000000		HLT		;N NOT SET
1528	005060	102401		BVS	.+4	
1529	005062	000000		HLT		;V NOT SET
1530	005064	103401		BCS	.+4	
1531	005066	000000		HLT		;C NOT SET
1532	005070	000240		SCOPE		
1533	005072	012705	077777	MOV #	77777,%5	
1534	005076	005405		NEG	%5	;DATA = 100001
1535	005100	102001		BVC	.+4	
1536	005102	000000		HLT		;V NOT CLEARED
1537	005104	001001		BNE	.+4	
1538	005106	000000		HLT		;Z NOT CLEARED
1539	005110	100401		BMI	.+4	
1540	005112	000000		HLT		;N NOT SET
1541	005114	103401		BCS	.+4	
1542	005116	000000		HLT		;C NOT CLEARED
1543						
1544						
1545						

;SUBTEST 6

1546					
1547	005120	000240	SCOPE		
1548	005122	000277	SCC		;SET CONDITION CODES
1549	005124	005000	CLR	%0	;CLEAR C, DATA=000000
1550	005126	005500	ADC	%0	;ADD 0 TO %0
1551	005130	001401	BEQ	.+4	
1552	005132	000000	HLT		;ADC %0 DID NOT SET Z
1553	005134	102001	BVC	.+4	
1554	005136	000000	HLT		;ADC %0 DID NOT CLEAR V
1555	005140	100001	BPL	.+4	
1556	005142	000000	HLT		;ADC %0 DID NOT CLEAR N
1557	005144	103001	BCC	.+4	
1558	005146	000000	HLT		;ADC %0 DID NOT CLEAR C
1559	005150	000240	SCOPE		
1560	005152	005000	CLR	%0	;DATA=000000
1561	005154	005100	COM	%0	;DATA=177777
1562	005156	005500	ADC	%0	;PLUS 1 TO 177777=000000
1563	005160	001401	BEQ	.+4	
1564	005162	000000	HLT		;ADC %0 DID NOT SET Z
1565	005164	102001	BVC	.+4	
1566	005166	000000	HLT		;ADC %0 DID NOT CLEAR V
1567	005170	103401	BCS	.+4	
1568	005172	000000	HLT		;ADC %0 DID NOT SET C
1569	005174	100001	BPL	.+4	
1570	005176	000000	HLT		;ADC %0 DID NOT CLEAR N
1571	005200	000240	SCOPE		
1572	005202	012700	MOV #	077777,%0	
1573	005206	000277	SCC		;SET
1574	005210	005500	ADC	%0	;DATA=100000, SET V
1575	005212	001001	BNE	.+4	
1576	005214	000000	HLT		;Z NOT CLEARED
1577	005216	100401	BMI	.+4	
1578	005220	000000	HLT		;N NOT SET
1579	005222	102401	BVS	.+4	
1580	005224	000000	HLT		;V NOT SET
1581	005226	103001	BCC	.+4	
1582	005230	000000	HLT		;C NOT CLEARED
1583	005232	000240	SCOPE		
1584	005234	012700	MOV #	077777,%0	;DATA=077777
1585	005240	000257	CCC		;C=0
1586	005242	005500	ADC	%0	;DATA=077777
1587	005244	102001	BVC	.+4	
1588	005246	000000	HLT		;V NOT CLEARED
1589	005250	100001	BPL	.+4	
1590	005252	000000	HLT		;N NOT CLEARED
1591	005254	000240	SCOPE		
1592	005256	000277	SCC		;SET CONDITION CODES
1593	005260	005000	CLR	%2	;CLEAR C, DATA=000000
1594	005262	005500	ADC	%2	;ADD 0 TO %2
1595	005264	001401	BEQ	.+4	
1596	005266	000000	HLT		;ADC %2 DID NOT SET Z
1597	005270	102001	BVC	.+4	
1598	005272	000000	HLT		;ADC %2 DID NOT CLEAR V
1599	005274	100001	BPL	.+4	
1600	005276	000000	HLT		;ADC %2 DID NOT CLEAR N
1601	005300	103001	BCC	.+4	

1602	005302	000000		HLT		;ADC %2 DID NOT CLEAR C
1603	005304	000240		SCOPE		
1604	005306	005002		CLR	%2	;DATA=000000
1605	005310	005102		COM	%2	;DATA=177777
1606	005312	005502		ADC	%2	;PLUS 1 TO 177777=000000
1607	005314	001401		BEQ	.+4	
1608	005316	000000		HLT		;ADC %2 DID NOT SET Z
1609	005320	102001		BVC	.+4	
1610	005322	000000		HLT		;ADC %2 DID NOT CLEAR V
1611	005324	103401		BCS	.+4	
1612	005326	000000		HLT		;ADC %2 DID NOT SET C
1613	005330	100001		BPL	.+4	
1614	005332	000000		HLT		;ADC %2 DID NOT CLEAR N
1615	005334	000240		SCOPE		
1616	005336	012702	077777	MOV #	077777,%2	
1617	005342	000277		SCC		;SET
1618	005344	005502		ADC	%2	;DATA=100000, SET V
1619	005346	001001		BNE	.+4	
1620	005350	000000		HLT		;Z NOT CLEARED
1621	005352	100401		BMI	.+4	
1622	005354	000000		HLT		;N NOT SET
1623	005356	102401		BVS	.+4	
1624	005360	000000		HLT		;V NOT SET
1625	005362	103001		BCC	.+4	
1626	005364	000000		HLT		;C NOT CLEARED
1627	005366	000240		SCOPE		
1628	005370	012702	077777	MOV #	077777,%2	;DATA=077777
1629	005374	000257		CCC		;C=0
1630	005376	005502		ADC	%2	;DATA=077777
1631	005400	102001		BVC	.+4	
1632	005402	000000		HLT		;V NOT CLEARED
1633	005404	100001		BPL	.+4	
1634	005406	000000		HLT		;N NOT CLEARED
1635	005410	000240		SCOPE		
1636	005412	000277		SCC		;SET CONDITION CODES
1637	005414	005003		CLR	%3	;CLEAR C, DATA=000000
1638	005416	005503		ADC	%3	;ADD 0 TO %3
1639	005420	001401		BEQ	.+4	
1640	005422	000000		HLT		;ADC %3 DID NOT SET Z
1641	005424	102001		BVC	.+4	
1642	005426	000000		HLT		;ADC %3 DID NOT CLEAR V
1643	005430	100001		BPL	.+4	
1644	005432	000000		HLT		;ADC %3 DID NOT CLEAR N
1645	005434	103001		BCC	.+4	
1646	005436	000000		HLT		;ADC %3 DID NOT CLEAR C
1647	005440	000240		SCOPE		
1648	005442	005003		CLR	%3	;DATA=000000
1649	005444	005103		COM	%3	;DATA=177777
1650	005446	005503		ADC	%3	;PLUS 1 TO 177777=000000
1651	005450	001401		BEQ	.+4	
1652	005452	000000		HLT		;ADC %3 DID NOT SET Z
1653	005454	102001		BVC	.+4	
1654	005456	000000		HLT		;ADC %3 DID NOT CLEAR V
1655	005460	103401		BCS	.+4	
1656	005462	000000		HLT		;ADC %3 DID NOT SET C
1657	005464	100001		BPL	.+4	

1658	005466	000000		HLT		;ADC %3 DID NOT CLEAR N
1659	005470	000240		SCOPE		
1660	005472	012703	077777	MOV #	077777,%3	
1661	005476	000277		SCC		;SET
1662	005500	005503		ADC	%3	;DATA=100000, SET V
1663	005502	001001		BNE	+.4	
1664	005504	000000		HLT		;Z NOT CLEARED
1665	005506	100401		BMI	+.4	
1666	005510	000000		HLT		;N NOT SET
1667	005512	102401		BVS	+.4	
1668	005514	000000		HLT		;V NOT SET
1669	005516	103001		BCC	+.4	
1670	005520	000000		HLT		;C NOT CLEARED
1671	005522	000240		SCOPE		
1672	005524	012703	077777	MOV #	077777,%3	;DATA=077777
1673	005530	000257		CCC		;C=0
1674	005532	005503		ADC	%3	;DATA=077777
1675	005534	102001		BVC	+.4	
1676	005536	000000		HLT		;V NOT CLEARED
1677	005540	100001		BPL	+.4	
1678	005542	000000		HLT		;N NOT CLEARED
1679	005544	000240		SCOPE		
1680	005546	000277		SCC		;SET CONDITION CODES
1681	005550	005004		CLR	%4	;CLEAR C, DATA=000000
1682	005552	005504		ADC	%4	;ADD 0 TO %4
1683	005554	001401		BEQ	+.4	
1684	005556	000000		HLT		;ADC %4 DID NOT SET Z
1685	005560	102001		BVC	+.4	
1686	005562	000000		HLT		;ADC %4 DID NOT CLEAR V
1687	005564	100001		BPL	+.4	
1688	005566	000000		HLT		;ADC %4 DID NOT CLEAR N
1689	005570	103001		BCC	+.4	
1690	005572	000000		HLT		;ADC %4 DID NOT CLEAR C
1691	005574	000240		SCOPE		
1692	005576	005004		CLR	%4	;DATA=000000
1693	005600	005104		COM	%4	;DATA=177777
1694	005602	005504		ADC	%4	;PLUS 1 TO 177777=000000
1695	005604	001401		BEQ	+.4	
1696	005606	000000		HLT		;ADC %4 DID NOT SET Z
1697	005610	102001		BVC	+.4	
1698	005612	000000		HLT		;ADC %4 DID NOT CLEAR V
1699	005614	103401		BCS	+.4	
1700	005616	000000		HLT		;ADC %4 DID NOT SET C
1701	005620	100001		BPL	+.4	
1702	005622	000000		HLT		;ADC %4 DID NOT CLEAR N
1703	005624	000240		SCOPE		
1704	005626	012704	077777	MOV #	077777,%4	
1705	005632	000277		SCC		;SET
1706	005634	005504		ADC	%4	;DATA=100000, SET V
1707	005636	001001		BNE	+.4	
1708	005640	000000		HLT		;Z NOT CLEARED
1709	005642	100401		BMI	+.4	
1710	005644	000000		HLT		;N NOT SET
1711	005646	102401		BVS	+.4	
1712	005650	000000		HLT		;V NOT SET
1713	005652	103001		BCC	+.4	

1714	005654	000000		HLT		;C NOT CLEARED
1715	005656	000240		SCOPE		
1716	005660	012704	077777	MOV *	077777,%4	;DATA=077777
1717	005664	000257		CCC		;C=0
1718	005666	005504		ADC	%4	;DATA=077777
1719	005670	102001		BVC	.+4	
1720	005672	000000		HLT		;V NOT CLEARED
1721	005674	100001		BPL	.+4	
1722	005676	000000		HLT		;N NOT CLEARED

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1730 005700 000240  SCOPE
1731 005702 000277  SCC
1732 005704 005005  CLR      %5
1733 005706 005505  ADC      %5
1734 005710 001401  BEQ      .+4
1735 005712 000000  HLT
1736 005714 102001  BVC      .+4
1737 005716 000000  HLT
1738 005720 100001  BPL      .+4
1739 005722 000000  HLT
1740 005724 103001  BCC      .+4
1741 005726 000000  HLT
1742 005730 000240  SCOPE
1743 005732 005005  CLR      %5
1744 005734 005105  COM      %5
1745 005736 005505  ADC      %5
1746 005740 001401  BEQ      .+4
1747 005742 000000  HLT
1748 005744 102001  BVC      .+4
1749 005746 000000  HLT
1750 005750 103401  BCS      .+4
1751 005752 000000  HLT
1752 005754 100001  BPL      .+4
1753 005756 000000  HLT
1754 005760 000240  SCOPE
1755 005762 012705  MOV      077777,%5
1756 005766 000277  SCC
1757 005770 005505  ADC      %5
1758 005772 001001  BNE      .+4
1759 005774 000000  HLT
1760 005776 100401  BMI      .+4
1761 006000 000000  HLT
1762 006002 102401  BVS      .+4
1763 006004 000000  HLT
1764 006006 103001  BCC      .+4
1765 006010 000000  HLT
1766 006012 000240  SCOPE
1767 006014 012705  MOV      077777,%5
1768 006020 000257  CCC
1769 006022 005505  ADC      %5
1770 006024 102001  BVC      .+4
1771 006026 000000  HLT
1772 006030 100001  BPL      .+4
1773 006032 000000  HLT

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;SET CONDITION CODES
;CLEAR C, DATA=000000
;ADD 0 TO %5
;ADC %5 DID NOT SET Z
;ADC %5 DID NOT CLEAR V
;ADC %5 DID NOT CLEAR N
;ADC %5 DID NOT CLEAR C
;ADC %5 DID NOT SET Z
;DATA=000000
;DATA=177777
;PLUS 1 TO 177777=000000
;ADC %5 DID NOT SET Z
;ADC %5 DID NOT CLEAR V
;ADC %5 DID NOT SET C
;ADC %5 DID NOT CLEAR N
;SET
;DATA=100000, SET V
;Z NOT CLEARED
;N NOT SET
;V NOT SET
;C NOT CLEARED
;DATA=077777
;C=C
;DATA=077777
;V NOT CLEARED
;N NOT CLEARED

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;OPART3
;SUBTEST 7

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1770					
1771					
1772	006034	000240	SCOPE		;SUBTRACT TYPE OPERATION!!!
1773					
1774	006036	005001	CLR	%1	;DATA=000000
1775	006040	000241	CLC		;C=0
1776	006042	005601	SBC	%1	;DATA=000000, C=1, Z=!
1777	006044	001401	BEQ	+.4	
1778	006046	000000	HLT		;Z NOT SET
1779	006050	100001	BPL	+.4	
1780	006052	000000	HLT		;N NOT CLEARED
1781	006054	102001	BVC	+.4	
1782	006056	000000	HLT		;V NOT CLEARED
1783	006060	103001	BCC	+.4	
1784	006062	000000	HLT		;C SHOULD BE CLEARED
1785	006064	000261	SEC		;SET C
1786	006066	005601	SBC	%1	;DATA=000000, C=1
1787	006070	103401	BCS	+.4	;DATA=177777, C=1
1788	006072	000000	HLT		;C NOT SET
1789	006074	001001	BNE	+.4	
1790	006076	000000	HLT		;Z NOT CLEARED
1791	006100	102001	BVC	+.4	
1792	006102	000000	HLT		;V NOT CLEARED
1793	006104	100401	BMI	+.4	
1794	006106	000000	HLT		;N NOT SET
1795	006110	000240	SCOPE		
1796	006112	005001	CLR	%1	;DATA=000000
1797	006114	005101	COM	%1	;DATA=177777
1798	006116	000257	CCC		
1799	006120	005601	SBC	%1	;DATA=177777, C=0
1800	006122	100401	BMI	+.4	;DATA=177777, C=1
1801	006124	000000	HLT		;N NOT SET
1802	006126	102001	BVC	+.4	
1803	006130	000000	HLT		;V NOT CLEARED
1804	006132	001001	BNE	+.4	
1805	006134	000000	HLT		;Z NOT CLEARED
1806	006136	103001	BCC	+.4	
1807	006140	000000	HLT		; "C" NOT CLEARED
1808	006142	000240	SCOPE		
1809	006144	000241	CLC		;CLEAR "C"
1810	006146	005601	SBC	%1	
1811	006150	100401	BMI	+.4	;DATA=177776, C=0
1812	006152	000000	HLT		;N NOT SET
1813	006154	001001	BNE	+.4	
1814	006156	000000	HLT		;Z NOT CLEARED
1815	006160	102001	BVC	+.4	
1816	006162	000000	HLT		;V NOT CLEARED
1817	006164	103001	BCC	+.4	
1818	006166	000000	HLT		
1819					
1820	006170	000240	SCOPE		;SUBTRACT TYPE OPERATION!!!
1821					
1822	006172	005002	CLR	%2	;DATA=000000
1823	006174	000241	CLC		;C=0
1824	006176	005602	SBC	%2	;DATA=000000, C=1, Z=1
1825	006200	001401	BEQ	+.4	

1826	006202	000000	HLT		;Z NOT SET
1827	006204	100001	BPL	.+4	
1828	006206	000000	HLT		;N NOT CLEARED
1829	006210	102001	BVC	.+4	
1830	006212	000000	HLT		;V NOT CLEARED
1831	006214	103001	BCC	.+4	
1832	006216	000000	HLT		;C SHOULD BE CLEARED
1833	006220	000261	SEC		;SET C
1834	006222	005602	SBC	%2	;DATA=000000, C=1
1835	006224	103401	BCS	.+4	;DATA=177777, C=1
1836	006226	000000	HLT		;C NOT SET
1837	006230	001001	BNE	.+4	
1838	006232	000000	HLT		;Z NOT CLEARED
1839	006234	102001	BVC	.+4	
1840	006236	000000	HLT		;V NOT CLEARED
1841	006240	100401	BMI	.+4	
1842	006242	000000	HLT		;N NOT SET
1843	006244	000240	SCOPE		
1844	006246	005002	CLR	%2	;DATA=000000
1845	006250	005102	COM	%2	;DATA=177777
1846	006252	000257	CCC		
1847	006254	005602	SBC	%2	;DATA=177777, C=0
1848	006256	100401	BMI	.+4	;DATA=177777, C=1
1849	006260	000000	HLT		;N NOT SET
1850	006262	102001	BVC	.+4	
1851	006264	000000	HLT		;V NOT CLEARED
1852	006266	001001	BNE	.+4	
1853	006270	000000	HLT		;Z NOT CLEARED
1854	006272	103001	BCC	.+4	
1855	006274	000000	HLT		; "C" NOT CLEARED
1856	006276	000240	SCOPE		
1857	006300	000241	CLC		;CLEAR "C"
1858	006302	005602	SBC	%2	
1859	006304	100401	BMI	.+4	;DATA=177776, C=0
1860	006306	000000	HLT		;N NOT SET
1861	006310	001001	BNE	.+4	
1862	006312	000000	HLT		;Z NOT CLEARED
1863	006314	102001	BVC	.+4	
1864	006316	000000	HLT		;V NOT CLEARED
1865	006320	103001	BCC	.+4	
1866	006322	000000	HLT		
1867					
1868	006324	000240	SCOPE		;SUBTRACT TYPE OPERATION!!!
1869					
1870	006326	005003	CLR	%3	;DATA=000000
1871	006330	000241	CLC		;C=0
1872	006332	005603	SBC	%3	;DATA=000000, C=1, Z=1
1873	006334	001401	BEQ	.+4	
1874	006336	000000	HLT		;Z NOT SET
1875	006340	100001	BPL	.+4	
1876	006342	000000	HLT		;N NOT CLEARED
1877	006344	102001	BVC	.+4	
1878	006346	000000	HLT		;V NOT CLEARED
1879	006350	103001	BCC	.+4	
1880	006352	000000	HLT		;C SHOULD BE CLEARED
1881	006354	000261	SEC		;SET C

E04

1882	006356	005603	SBC	%3	;DATA=000300, C=1
1883	006360	103401	BCS	.+4	;DATA=177777, C=1
1884	006362	000000	HLT		;C NOT SET
1885	006364	001001	BNE	.+4	
1886	006366	000000	HLT		;Z NOT CLEARED
1887	006370	102001	BVC	.+4	
1888	006372	000000	HLT		;V NOT CLEARED
1889	006374	100401	BMI	.+4	
1890	006376	000000	HLT		;N NOT SET
1891	006400	000240	SCOPE		
1892	006402	005003	CLR	%3	;DATA=000000
1893	006404	005103	COM	%3	;DATA=177777
1894	006406	000257	CCC		
1895	006410	005603	SBC	%3	;DATA=177777, C=0
1896	006412	100401	BMI	.+4	;DATA=177777, C=1
1897	006414	000000	HLT		;N NOT SET
1898	006416	102001	BVC	.+4	
1899	006420	000000	HLT		;V NOT CLEARED
1900	006422	001001	BNE	.+4	
1901	006424	000000	HLT		;Z NOT CLEARED
1902	006426	103001	BCC	.+4	
1903	006430	000000	HLT		; "C" NOT CLEARED
1904	006432	000240	SCOPE		
1905	006434	000241	CLC		;CLEAR "C"
1906	006436	005603	SBC	%3	
1907	006440	100401	BMI	.+4	;DATA=177776, C=0
1908	006442	000000	HLT		;N NOT SET
1909	006444	001001	BNE	.+4	
1910	006446	000000	HLT		;Z NOT CLEARED
1911	006450	102001	BVC	.+4	
1912	006452	000000	HLT		;V NOT CLEARED
1913	006454	103001	BCC	.+4	
1914	006456	000000	HLT		
1915					
1916	006460	000240	SCOPE		;SUBTRACT TYPE OPERATION!!!
1917					
1918	006462	005004	CLR	%4	;DATA=000000
1919	006464	000241	CLC		;C=0
1920	006466	005604	SBC	%4	;DATA=000000, C=1, Z=1
1921	006470	001401	BEQ	.+4	
1922	006472	000000	HLT		;Z NOT SET
1923	006474	100001	BPL	.+4	
1924	006476	000000	HLT		;N NOT CLEARED
1925	006500	102001	BVC	.+4	
1926	006502	000000	HLT		;V NOT CLEARED
1927	006504	103001	BCC	.+4	
1928	006506	000000	HLT		;C SHOULD BE CLEARED
1929	006510	000261	SEC		;SET C
1930	006512	005604	SBC	%4	;DATA=000000, C=1
1931	006514	103401	BCS	.+4	;DATA=177777, C=1
1932	006516	000000	HLT		;C NOT SET
1933	006520	001001	BNE	.+4	
1934	006522	000000	HLT		;Z NOT CLEARED
1935	006524	102001	BVC	.+4	
1936	006526	000000	HLT		;V NOT CLEARED
1937	006530	100401	BMI	.+4	

1938	006532	000000	HLT		;N NOT SET
1939	006534	000240	SCOPE		
1940	006536	005004	CLR	%4	;DATA=000000
1941	006540	005104	COM	%4	;DATA=177777
1942	006542	000257	CCC		
1943	006544	005604	SBC	%4	;DATA=177777, C=0
1944	006546	100401	BMI	.+4	;DATA=177777, C=1
1945	006550	000000	HLT		;N NOT SET
1946	006552	102001	BVC	.+4	
1947	006554	000000	HLT		;V NOT CLEARED
1948	006556	001001	BNE	.+4	
1949	006560	000000	HLT		;Z NOT CLEARED
1950	006562	103001	BCC	.+4	
1951	006564	000000	HLT		; "C" NOT CLEARED
1952	006566	000240	SCOPE		
1953	006570	000241	CLC		;CLEAR "C"
1954	006572	005604	SBC	%4	
1955	006574	100401	BMI	.+4	;DATA=177776, C=0
1956	006576	000000	HLT		;N NOT SET
1957	006600	001001	BNE	.+4	
1958	006602	000000	HLT		;Z NOT CLEARED
1959	006604	102001	BVC	.+4	
1960	006606	000000	HLT		;V NOT CLEARED
1961	006610	103001	BCC	.+4	
1962	006612	000000	HLT		

1963					
1964	006614	000240	SCOPE		;SUBTRACT TYPE OPERATION!!!
1965					
1966	006616	005005	CLR	%5	;DATA=000000
1967	006620	000241	CLC		;C=0
1968	006622	005605	SBC	%5	;DATA=000000, C=1, Z=1
1969	006624	001401	SEQ	.+4	
1970	006626	000000	HLT		;Z NOT SET
1971	006630	100001	BPL	.+4	
1972	006632	000000	HLT		;N NOT CLEARED
1973	006634	102001	BVC	.+4	
1974	006636	000000	HLT		;V NOT CLEARED
1975	006640	103001	BCC	.+4	
1976	006642	000000	HLT		;C SHOULD BE CLEARED
1977	006644	000261	SEC		;SET C
1978	006646	005605	SBC	%5	;DATA=000000, C=1
1979	006650	103401	BCS	.+4	;DATA=177777, C=1
1980	006652	000000	HLT		;C NOT SET
1981	006654	001001	BNE	.+4	
1982	006656	000000	HLT		;Z NOT CLEARED
1983	006660	102001	BVC	.+4	
1984	006662	000000	HLT		;V NOT CLEARED
1985	006664	100401	BMI	.+4	
1986	006666	000000	HLT		;N NOT SET
1987	006670	000240	SCOPE		
1988	006672	005005	CLR	%5	;DATA=000000
1989	006674	005105	COM	%5	;DATA=177777
1990	006676	000257	CCC		
1991	006700	005605	SBC	%5	;DATA=177777, C=0
1992	006702	100401	BMI	.+4	;DATA=177777, C=1
1993	006704	000000	HLT		;N NOT SET
1994	006706	102001	BVC	.+4	
1995	006710	000000	HLT		;V NOT CLEARED
1996	006712	001001	BNE	.+4	
1997	006714	000000	HLT		;Z NOT CLEARED
1998	006716	103001	BCC	.+4	
1999	006720	000000	HLT		; "C" NOT CLEARED
2000	006722	000240	SCOPE		
2001	006724	000241	CLC		;CLEAR "C"
2002	006726	005605	SBC	%5	
2003	006730	100401	BMI	.+4	;DATA=177776, C=0
2004	006732	000000	HLT		;N NOT SET
2005	006734	001001	BNE	.+4	
2006	006736	000000	HLT		;Z NOT CLEARED
2007	006740	102001	BVC	.+4	
2008	006742	000000	HLT		;V NOT CLEARED
2009	006744	103001	BCC	.+4	
2010	006746	000000	HLT		
2011					
2012					;SUBTEST 8

2013					
2014					
2015	006750	000240	SCOPE		
2016	006752	000277	SCC		;SET CODES
2017	006754	005000	CLR	%0	;DATA=000000
2018	006756	005700	TST	%0	;TEST CLR %0 INSTRUCTIONS
2019	006760	001401	BEQ	.+4	
2020	006762	000000	HLT		;Z NOT SET BY CLR %0
2021	006764	100001	BPL	.+4	
2022	006766	000000	HLT		;N NOT CLEARED BY CLR %0
2023	006770	102001	BVC	.+4	
2024	006772	000000	HLT		;V NOT SET
2025	006774	103001	SCC	.+4	
2026	006776	000000	HLT		;C NOT SET
2027	007000	000240	SCOPE		
2028	007002	005000	CLR	%0	;DATA=000000
2029	007004	005100	COM	%0	;DATA=177777
2030	007006	005700	TST	%0	;TEST COM %0 INSTRUCTION
2031	007010	100401	BMI	.+4	
2032	007012	000000	HLT		;N NOT SET BY COM %0
2033	007014	001001	BNE	.+4	
2034	007016	000000	HLT		;Z NOT CLEARED BY COM %0
2035	007020	102001	BVC	.+4	
2036	007022	000000	HLT		;V NOT CLEARED
2037	007024	103001	BCC	.+4	
2038	007026	000000	HLT		;C NOT CLEARED
2039	007030	000240	SCOPE		
2040	007032	005000	CLR	%0	;DATA=000000
2041	007034	005200	INC	%0	;DATA=000001
2042	007036	000277	SCC		;SET CODES
2043	007040	005700	TST	%0	;TEST INC %0 INSTRUCTION
2044	007042	001001	BNE	.+4	
2045	007044	000000	HLT		;Z NOT CLEARED BY INC %0
2046	007046	100001	BPL	.+4	
2047	007050	000000	HLT		;N NOT CLEARED BY INC %0
2048	007052	000240	SCOPE		
2049	007054	005000	CLR	%0	;DATA=000000
2050	007056	005200	INC	%0	;DATA=000001
2051	007060	005300	DEC	%0	;DATA=000000
2052	007062	005700	TST	%0	;TEST THAT %0 IS CLEARED
2053	007064	001401	BEQ	.+4	
2054	007066	000000	HLT		;Z NOT SET
2055	007070	100001	BPL	.+4	
2056	007072	000000	HLT		
2057	007074	000240	SCOPE		;N NOT CLEARED
2058	007076	005000	CLR	%0	
2059	007100	000277	SCC		;DATA=000000
2060	007102	005400	NEG	%0	;DATA=000000
2061	007104	005700	TST	%0	
2062	007106	001401	BEQ	.+4	
2063	007110	000000	HLT		;Z NOT SET BY NEG %0
2064	007112	100001	BPL	.+4	
2065	007114	000000	HLT		;N NOT CLEARED BY NEG %0
2066	007116	000240	SCOPE		
2067	007120	000257	CCC		;C=0
2068	007122	005000	CLR	%0	;DATA=000000

2069	007124	005500	ADC	%0	;DATA=000000
2070	007126	005700	TST	%0	;TEST FOR ZERO
2071	007130	001401	BEQ	+.4	
2072	007132	000000	HLT		;Z NOT SET
2073					
2074	007134	102001	BVC	+.4	
2075	007136	000000	HLT		;V NOT CLEARED
2076	007140	103001	BCC	+.4	
2077	007142	000000	HLT		;C NOT CLEARED
2078	007144	000240	SCOPE		
2079	007146	000277	SCC		;SET CODES, C=1
2080	007150	005000	CLR	%0	;DATA=000000
2081	007152	005100	COM	%0	;DATA=177777
2082	007154	000261	SEC		
2083	007156	005500	ADC	%0	;DATA=000000
2084	007160	005700	TST	%0	;SHOULD CLEAR C AND V
2085	007162	001401	BEQ	+.4	
2086	007164	000000	HLT		;Z NOT SET BY ADC %0
2087	007166	102001	BVC	+.4	
2088	007170	000000	HLT		;V NOT CLEAR BY TST %0
2089	007172	103001	BCC	+.4	
2090	007174	000000	HLT		;C NOT CLEAR BY TST %0
2091	007176	000240	SCOPE		
2092	007200	005000	CLR	%0	;DATA=000000
2093	007202	000277	SCC		;C=1
2094	007204	005600	SBC	%0	;DATA=177777, C=0
2095	007206	103401	BCS	+.4	
2096	007210	000000	HLT		;C NOT SET BY SBC %0
2097	007212	100401	BMI	+.4	
2098	007214	000000	HLT		;N NOT SET BY SBC %0
2099	007216	001001	BNE	+.4	
2100	007220	000000	HLT		;Z NOT CLEARED BY SBC %0
2101	007222	000240	SCOPE		
2102	007224	005000	CLR	%0	;DATA=000000
2103	007226	005200	INC	%0	;DATA=000001
2104	007230	000277	SCC		;C=1
2105	007232	005600	SBC	%0	;DATA=000000, C=0
2106	007234	005700	TST	%0	
2107	007236	001401	BEQ	+.4	
2108	007240	000000	HLT		;Z NOT SET BY SBC %0
2109	007242	102001	BVC	+.4	
2110	007244	000000	HLT		;V NOT CLEARED BY SBC %0
2111	007246	103001	BCC	+.4	
2112	007250	000000	HLT		;C NOT CLEARED BY SBC %0
2113	007252	100001	BPL	+.4	
2114	007254	000000	HLT		;N NOT CLEARED BY SBC %0
2115	007256	000240	SCOPE		
2116					
2117	007260	000240	SCOPE		
2118	007262	000277	SCC		;SET CODES
2119	007264	005001	CLR	%1	;DATA=000000
2120	007266	005701	TST	%1	;TEST CLR %1 INSTRUCTIONS
2121	007270	001401	BEQ	+.4	
2122	007272	000000	HLT		;Z NOT SET BY CLR %1
2123	007274	100001	BPL	+.4	
2124	007276	000000	HLT		;N NOT CLEARED BY CLR %1

2125	007300	102001	BVC	.+4	
2125	007302	000000	HLT		;V NOT SET
2127	007304	103001	BCC	.+4	
2129	007306	000000	HLT		;C NOT SET
2129	007310	000240	SCOPE		
2130	007312	005001	CLR	%1	;DATA=000000
2131	007314	005101	COM	%1	;DATA=177777
2132	007316	005701	TST	%1	;TEST COM %1 INSTRUCTION
2133	007320	100401	BMI	.+4	
2134	007322	000000	HLT		;N NOT SET BY COM %1
2135	007324	001001	BNE	.+4	
2136	007326	000000	HLT		;Z NOT CLEARED BY COM %1
2137	007330	102001	BVC	.+4	
2138	007332	000000	HLT		;V NOT CLEARED
2139	007334	103001	BCC	.+4	
2140	007336	000000	HLT		;C NOT CLEARED
2141	007340	000240	SCOPE		
2142	007342	005001	CLR	%1	;DATA=000000
2143	007344	005201	INC	%1	;DATA=000001
2144	007346	000277	SCC		;SET CODES
2145	007350	005701	TST	%1	;TEST INC %1 INSTRUCTION
2146	007352	001001	BNE	.+4	
2147	007354	000000	HLT		;Z NOT CLEARED BY INC %1
2148	007356	100001	BPL	.+4	
2149	007360	000000	HLT		;N NOT CLEARED BY INC %1
2150	007362	000240	SCOPE		
2151	007364	005001	CLR	%1	;DATA=000000
2152	007366	005201	INC	%1	;DATA=000001
2153	007370	005301	DEC	%1	;DATA=000000
2154	007372	005701	TST	%1	;TEST THAT %1 IS CLEARED
2155	007374	001401	BEQ	.+4	
2156	007376	000000	HLT		;Z NOT SET
2157	007400	100001	BPL	.+4	
2158	007402	000000	HLT		
2159	007404	000240	SCOPE		;N NOT CLEARED
2160	007406	005001	CLR	%1	
2161	007410	000277	SCC		;DATA=000000
2162	007412	005401	NEG	%1	;DATA=000000
2163	007414	005701	TST	%1	
2164	007416	001401	BEQ	.+4	
2165	007420	000000	HLT		;Z NOT SET BY NEG %1
2166	007422	100001	BPL	.+4	
2167	007424	000000	HLT		;N NOT CLEARED BY NEG %1
2168	007426	000240	SCOPE		
2169	007430	000257	CCC		;C=0
2170	007432	005001	CLR	%1	;DATA=000000
2171	007434	005501	ADC	%1	;DATA=000000
2172	007436	005701	TST	%1	;TEST FOR ZERO
2173	007440	001401	BEQ	.+4	
2174	007442	000000	HLT		;Z NOT SET
2175					
2176	007444	102001	BVC	.+4	
2177	007446	000000	HLT		;V NOT CLEARED
2178	007450	103001	BCC	.+4	
2179	007452	000000	HLT		;C NOT CLEARED
2180	007454	000240	SCOPE		

2181	007456	000277	SCC		;SET CODES, C=1
2182	007460	005001	CLR	%1	;DATA=000000
2183	007462	005101	COM	%1	;DATA=177777
2184	007464	000261	SEC		
2185	007466	005501	ADC	%1	;DATA=000000
2186	007470	005701	TST	%1	;SHOULD CLEAR C AND V
2187	007472	001401	BEQ	.+4	
2188	007474	000000	HLT		;Z NOT SET BY ADC %1
2189	007476	102001	BVC	.+4	
2190	007500	000000	HLT		;V NOT CLEAR BY TST %1
2191	007502	103001	BCC	.+4	
2192	007504	000000	HLT		;C NOT CLEAR BY TST %1
2193	007506	000240	SCOPE		
2194	007510	005001	CLR	%1	;DATA=000000
2195	007512	000277	SCC		;C=1
2196	007514	005601	SBC	%1	;DATA=177777, C=0
2197	007516	103401	BCS	.+4	
2198	007520	000000	HLT		;C NOT SET BY SBC %1
2199	007522	100401	BMI	.+4	
2200	007524	000000	HLT		;N NOT SET BY SBC %1
2201	007526	001001	BNE	.+4	
2202	007530	000000	HLT		;Z NOT CLEARED BY SBC %1
2203	007532	000240	SCOPE		
2204	007534	005001	CLR	%1	;DATA=000000
2205	007536	005201	INC	%1	;DATA=000001
2206	007540	000277	SCC		;C=1
2207	007542	005601	SBC	%1	;DATA=000000, C=0
2208	007544	005701	TST	%1	
2209	007546	001401	BEQ	.+4	
2210	007550	000000	HLT		;Z NOT SET BY SBC %1
2211	007552	102001	BVC	.+4	
2212	007554	000000	HLT		;V NOT CLEARED BY SBC %1
2213	007556	103001	BCC	.+4	
2214	007560	000000	HLT		;C NOT CLEARED BY SBC %1
2215	007562	100001	BPL	.+4	
2216	007564	000000	HLT		;N NOT CLEARED BY SBC %1
2217	007566	000240	SCOPE		
2218					
2219	007570	000240	SCOPE		
2220	007572	000277	SCC		;SET CODES
2221	007574	005002	CLR	%2	;DATA=000000
2222	007576	005702	TST	%2	;TEST CLR %2 INSTRUCTIONS
2223	007600	001401	BEQ	.+4	
2224	007602	000000	HLT		;Z NOT SET BY CLR %2
2225	007604	100001	BPL	.+4	
2226	007606	000000	HLT		;N NOT CLEARED BY CLR %2
2227	007610	102001	BVC	.+4	
2228	007612	000000	HLT		;V NOT SET
2229	007614	103001	BCC	.+4	
2230	007616	000000	HLT		;C NOT SET
2231	007620	000240	SCOPE		
2232	007622	005002	CLR	%2	;DATA=000000
2233	007624	005102	COM	%2	;DATA=177777
2234	007626	005702	TST	%2	;TEST COM %2 INSTRUCTION
2235	007630	100401	BMI	.+4	
2236	007632	000000	HLT		;N NOT SET BY COM %2

2237	007634	001001	BNE	.+4	
2238	007636	000000	HLT		;Z NOT CLEARED BY COM %2
2239	007640	102001	BVC	.+4	
2240	007642	000000	HLT		;V NOT CLEARED
2241	007644	103001	BCC	.+4	
2242	007646	000000	HLT		;C NOT CLEARED
2243	007650	000240	SCOPE		
2244	007652	005002	CLR	%2	;DATA=000000
2245	007654	005202	INC	%2	;DATA=000001
2246	007656	000277	SCC		;SET CODES
2247	007660	005702	TST	%2	;TEST INC %2 INSTRUCTION
2248	007662	001001	BNE	.+4	
2249	007664	000000	HLT		;Z NOT CLEARED BY INC %2
2250	007666	100001	BPL	.+4	
2251	007670	000000	HLT		;N NOT CLEARED BY INC %2
2252	007672	000240	SCOPE		
2253	007674	005002	CLR	%2	;DATA=000000
2254	007676	005202	INC	%2	;DATA=000001
2255	007700	005302	DEC	%2	;DATA=000000
2256	007702	005702	TST	%2	;TEST THAT %2 IS CLEARED
2257	007704	001401	BEQ	.+4	
2258	007706	000000	HLT		;Z NOT SET
2259	007710	100001	BPL	.+4	
2260	007712	000000	HLT		
2261	007714	000240	SCOPE		;N NOT CLEARED
2262	007716	005002	CLR	%2	
2263	007720	000277	SCC		;DATA=000000
2264	007722	005402	NEG	%2	;DATA=000000
2265	007724	005702	TST	%2	
2266	007726	001401	BEQ	.+4	
2267	007730	000000	HLT		;Z NOT SET BY NEG %2
2268	007732	100001	BPL	.+4	
2269	007734	000000	HLT		;N NOT CLEARED BY NEG %2
2270	007736	000240	SCOPE		
2271	007740	000257	CCC		;C=0
2272	007742	005002	CLR	%2	;DATA=000000
2273	007744	005502	ADC	%2	;DATA=000000
2274	007746	005702	TST	%2	;TEST FOR ZERO
2275	007750	001401	BEQ	.+4	
2276	007752	000000	HLT		;Z NOT SET
2277					
2278	007754	102001	BVC	.+4	
2279	007756	000000	HLT		;V NOT CLEARED
2280	007760	103001	BCC	.+4	
2281	007762	000000	HLT		;C NOT CLEARED
2282	007764	000240	SCOPE		
2283	007766	000277	SCC		;SET CODES, C=1
2284	007770	005002	CLR	%2	;DATA=000000
2285	007772	005102	COM	%2	;DATA=177777
2286	007774	000261	SEC		
2287	007776	005502	ADC	%2	;DATA=000000
2288	010000	005702	TST %2		;SHOULD CLEAR C AND V
2289	010002	001401	BEQ	.+4	
2290	010004	000000	HLT		;Z NOT SET BY ADC %2
2291	010006	102001	BVC	.+4	
2292	010010	000000	HLT		;V NOT CLEAR BY TST %2

2293	010012	103001	BCC	.+4	
2294	010014	000000	HLT		;C NOT CLEAR BY TST %2
2295	010016	000240	SCOPE		
2296	010020	005002	CLR	%2	;DATA=000000
2297	010022	000277	SCC		;C=1
2298	010024	005602	SBC	%2	;DATA=177777, C=0
2299	010026	103401	SCS	.+4	
2300	010030	000000	HLT		;C NOT SET BY SBC %2
2301	010032	100401	BMI	.+4	
2302	010034	000000	HLT		;N NOT SET BY SBC %2
2303	010036	001001	BNE	.+4	
2304	010040	000000	HLT		;Z NOT CLEARED BY SBC %2
2305	010042	000240	SCOPE		
2306	010044	005002	CLR	%2	;DATA=000000
2307	010046	005202	INC	%2	;DATA=000001
2308	010050	000277	SCC		;C=1
2309	010052	005602	SBC	%2	;DATA=000000, C=0
2310	010054	005702	TST	%2	
2311	010056	001401	BEQ	.+4	
2312	010060	000000	HLT		;Z NOT SET BY SBC %2
2313	010062	102001	BVC	.+4	
2314	010064	000000	HLT		;V NOT CLEARED BY SBC %2
2315	010066	103001	BCC	.+4	
2316	010070	000000	HLT		;C NOT CLEARED BY SBC %2
2317	010072	100001	BPL	.+4	
2318	010074	000000	HLT		;N NOT CLEARED BY SBC %2
2319	010076	000240	SCOPE		
2320					
2321	010100	000240	SCOPE		
2322	010102	000277	SCC		;SET CODES
2323	010104	005003	CLR	%3	;DATA=000000
2324	010106	005703	TST	%3	;TEST CLR %3 INSTRUCTIONS
2325	010110	001401	BEQ	.+4	
2326	010112	000000	HLT		;Z NOT SET BY CLR %3
2327	010114	100001	BPL	.+4	
2328	010116	000000	HLT		;N NOT CLEARED BY CLR %3
2329	010120	102001	BVC	.+4	
2330	010122	000000	HLT		;V NOT SET
2331	010124	103001	BCC	.+4	
2332	010126	000000	HLT		;C NOT SET
2333	010130	000240	SCOPE		
2334	010132	005003	CLR	%3	;DATA=000000
2335	010134	005103	COM	%3	;DATA=177777
2336	010136	005703	TST	%3	;TEST COM %3 INSTRUCTION
2337	010140	100401	BMI	.+4	
2338	010142	000000	HLT		;N NOT SET BY COM %3
2339	010144	001001	BNE	.+4	
2340	010146	000000	HLT		;Z NOT CLEARED BY COM %3
2341	010150	102001	BVC	.+4	
2342	010152	000000	HLT		;V NOT CLEARED
2343	010154	103001	BCC	.+4	
2344	010156	000000	HLT		;C NOT CLEARED
2345	010160	000240	SCOPE		
2346	010162	005003	CLR	%3	;DATA=000000
2347	010164	005203	INC	%3	;DATA=000001
2348	010166	000277	SCC		;SET CODES

2349	010170	005703	TST	%3	;TEST INC %3 INSTRUCTION
2350	010172	001001	BNE	+.4	
2351	010174	000000	HLT		;Z NOT CLEARED BY INC %3
2352	010176	100001	BPL	+.4	
2353	010200	000000	HLT		;N NOT CLEARED BY INC %3
2354	010202	000240	SCOPE		
2355	010204	005003	CLR	%3	;DATA=000000
2356	010206	005203	INC	%3	;DATA=000001
2357	010210	005303	DEC	%3	;DATA=000000
2358	010212	005703	TST	%3	;TEST THAT %3 IS CLEARED
2359	010214	001401	BEQ	+.4	
2360	010216	000000	HLT		;Z NOT SET
2361	010220	100001	BPL	+.4	
2362	010222	000000	HLT		
2363	010224	000240	SCOPE		;N NOT CLEARED
2364	010226	005003	CLR	%3	
2365	010230	000277	SCC		;DATA=000000
2366	010232	005403	NEG	%3	;DATA=000000
2367	010234	005703	TST	%3	
2368	010236	001401	BEQ	+.4	
2369	010240	000000	HLT		;Z NOT SET BY NEG %3
2370	010242	100001	BPL	+.4	
2371	010244	000000	HLT		;N NOT CLEARED BY NEG %3
2372	010246	000240	SCOPE		
2373	010250	000257	CCC		;C=0
2374	010252	005003	CLR	%3	;DATA=000000
2375	010254	005503	ADC	%3	;DATA=000000
2376	010256	005703	TST	%3	;TEST FOR ZERO
2377	010260	001401	BEQ	+.4	
2378	010262	000000	HLT		;Z NOT SET
2379					
2380	010264	102001	BVC	+.4	
2381	010266	000000	HLT		;V NOT CLEARED
2382	010270	103001	BCC	+.4	
2383	010272	000000	HLT		;C NOT CLEARED
2384	010274	000240	SCOPE		
2385	010276	000277	SCC		;SET CODES, C=1
2386	010300	005003	CLR	%3	;DATA=000000
2387	010302	005103	COM	%3	;DATA=177777
2388	010304	000261	SEC		
2389	010306	005503	ADC	%3	;DATA=000000
2390	010310	005703	TST %3		;SHOULD CLEAR C AND V
2391	010312	001401	BEQ	+.4	
2392	010314	000000	HLT		;Z NOT SET BY ADC %3
2393	010316	102001	BVC	+.4	
2394	010320	000000	HLT		;V NOT CLEAR BY TST %3
2395	010322	103001	BCC	+.4	
2396	010324	000000	HLT		;C NOT CLEAR BY TST %3
2397	010326	000240	SCOPE		
2398	010330	005003	CLR	%3	;DATA=000000
2399	010332	000277	SCC		;C=1
2400	010334	005603	SBC	%3	;DATA=177777, C=0
2401	010336	103401	BCS	+.4	
2402	010340	000000	HLT		;C NOT SET BY SBC %3
2403	010342	100401	BMI	+.4	
2404	010344	000000	HLT		;N NOT SET BY SBC %3

010326	001001	BNE	.+4	
010330	000000	HLT		;Z NOT CLEARED BY SBC %3
010332	000240	SCOPE		
010334	005000	CLR	%3	;DATA=000000
010336	005203	INC	%3	;DATA=000001
010340	000277	SCC		;C=1
010362	005603	SBC	%3	;DATA=000000, C=0
010364	005703	TST	%3	
010366	001401	BEO	.+4	
010370	000000	HLT		;Z NOT SET BY SBC %3
010372	102001	BVC	.+4	
010374	000000	HLT		;V NOT CLEARED BY SBC %3
010376	103001	SCC	.+4	
010400	000000	HLT		;C NOT CLEARED BY SBC %3
010402	100001	BPL	.+4	
010404	000000	HLT		;N NOT CLEARED BY SBC %3
010406	000240	SCOPE		
010410	000240	SCOPE		
010412	000277	SCC		;SET CODES
010414	005004	CLR	%4	;DATA=000000
010416	005704	TST	%4	;TEST CLR %4 INSTRUCTIONS
010420	001401	BEO	.+4	
010422	000000	HLT		;Z NOT SET BY CLR %4
010424	100001	BPL	.+4	
010426	000000	HLT		;N NOT CLEARED BY CLR %4
010430	102001	BVC	.+4	
010432	000000	HLT		;V NOT SET
010434	103001	BCC	.+4	
010436	000000	HLT		;C NOT SET
010440	000240	SCOPE		
010442	005004	CLR	%4	;DATA=000000
010444	005104	COM	%4	;DATA=177777
010446	005704	TST	%4	;TEST COM %4 INSTRUCTION
010450	100401	BMI	.+4	
010452	000000	HLT		;N NOT SET BY COM %4
010454	001001	BNE	.+4	
010456	000000	HLT		;Z NOT CLEARED BY COM %4
010460	102001	BVC	.+4	
010462	000000	HLT		;V NOT CLEARED
010464	103001	BCC	.+4	
010466	000000	HLT		;C NOT CLEARED
010470	000240	SCOPE		
010472	005004	CLR	%4	;DATA=000000
010474	005204	INC	%4	;DATA=000001
010476	000277	SCC		;SET CODES
010500	005704	TST	%4	;TEST INC %4 INSTRUCTION
010502	001001	BNE	.+4	
010504	000000	HLT		;Z NOT CLEARED BY INC %4
010506	100001	BPL	.+4	
010510	000000	HLT		;N NOT CLEARED BY INC %4
010512	000240	SCOPE		
010514	005004	CLR	%4	;DATA=000000
010516	005204	INC	%4	;DATA=000001
010520	005304	DEC	%4	;DATA=000000
010522	005704	TST	%4	;TEST THAT %4 IS CLEARED

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2461	010524	001401	BEQ	.+4	
2462	010526	000000	HLT		;Z NOT SET
2463	010530	100001	BPL	.+4	
2464	010532	000000	HLT		
2465	010534	000240	SCOPE		;N NOT CLEARED
2466	010536	005004	CLR	%4	
2467	010540	000277	SCC		;DATA=000000
2468	010542	005404	NEG	%4	;DATA=000000
2469	010544	005704	TST	%4	
2470	010546	001401	BEQ	.+4	
2471	010550	000000	HLT		;Z NOT SET BY NEG %4
2472	010552	100001	BPL	.+4	
2473	010554	000000	HLT		;N NOT CLEARED BY NEG %4
2474	010556	000240	SCOPE		
2475	010560	000257	CCC		;C=0
2476	010562	005004	CLR	%4	;DATA=000000
2477	010564	005504	ADC	%4	;DATA=000000
2478	010566	005704	TST	%4	;TEST FOR ZERO
2479	010570	001401	BEQ	.+4	
2480	010572	000000	HLT		;Z NOT SET
2481					
2482	010574	102001	BVC	.+4	
2483	010576	000000	HLT		;V NOT CLEARED
2484	010600	103001	BCC	.+4	
2485	010602	000000	HLT		;C NOT CLEARED
2486	010604	000240	SCOPE		
2487	010606	000277	SCC		;SET CODES, C=1
2488	010610	005004	CLR	%4	;DATA=000000
2489	010612	005104	COM	%4	;DATA=177777
2490	010614	000261	SEC		
2491	010616	005504	ADC	%4	;DATA=000000
2492	010620	005704	TST %4		;SHOULD CLEAR C AND V
2493	010622	001401	BEQ	.+4	
2494	010624	000000	HLT		;Z NOT SET BY ADC %4
2495	010626	102001	BVC	.+4	
2496	010630	000000	HLT		;V NOT CLEAR BY TST %4
2497	010632	103001	BCC	.+4	
2498	010634	000000	HLT		;C NOT CLEAR BY TST %4
2499	010636	000240	SCOPE		
2500	010640	005004	CLR	%4	;DATA=000000
2501	010642	000277	SCC		;C=1
2502	010644	005604	SBC	%4	;DATA=177777, C=0
2503	010646	103401	BCS	.+4	
2504	010650	000000	HLT		;C NOT SET BY SBC %4
2505	010652	100401	BMI	.+4	
2506	010654	000000	HLT		;N NOT SET BY SBC %4
2507	010656	001001	BNE	.+4	
2508	010660	000000	HLT		;Z NOT CLEARED BY SBC %4
2509	010662	000240	SCOPE		
2510	010664	005004	CLR	%4	;DATA=000000
2511	010666	005204	INC	%4	;DATA=000001
2512	010670	000277	SCC		;C=1
2513	010672	005604	SBC	%4	;DATA=000000, C=0
2514	010674	005704	TST %4		
2515	010676	001401	BEQ	.+4	
2516	010700	000000	HLT		;Z NOT SET BY SBC %4

2517 010702 102001
2518 010704 000000
2519 010706 103001
2520 010710 000000
2521 010712 100001
2522 010714 000000
2523 010716 000240

BVC .+4
HLT
BCC .+4
HLT
BPL .+4
HLT
SCOPE

;V NOT CLEARED BY SBC %4
;C NOT CLEARED BY SBC %4
;N NOT CLEARED BY SBC %4

2524					
2525	010720	000240	SCOPE		
2526	010722	000277	SCC		; SET CODES
2527	010724	005005	CLR	%5	; DATA=000000
2528	010726	005705	TST	%5	; TEST CLR %5 INSTRUCTIONS
2529	010730	001401	BEQ	.+4	
2530	010732	000000	HLT		; Z NOT SET BY CLR %5
2531	010734	100001	BPL	.+4	
2532	010736	000000	HLT		; N NOT CLEARED BY CLR %5
2533	010740	102001	BVC	.+4	
2534	010742	000000	HLT		; V NOT SET
2535	010744	103001	SCC	.+4	
2536	010746	000000	HLT		; C NOT SET
2537	010750	000240	SCOPE		
2538	010752	005005	CLR	%5	; DATA=000000
2539	010754	005105	COM	%5	; DATA=177777
2540	010756	005705	TST	%5	; TEST COM %5 INSTRUCTION
2541	010760	100401	BMI	.+4	
2542	010762	000000	HLT		; N NOT SET BY COM %5
2543	010764	001001	BNE	.+4	
2544	010766	000700	HLT		; Z NOT CLEARED BY COM %5
2545	010770	102101	BVC	.+4	
2546	010772	000000	HLT		; V NOT CLEARED
2547	010774	103001	BCC	.+4	
2548	010776	000000	HLT		; C NOT CLEARED
2549	011000	000240	SCOPE		
2550	011002	005005	CLR	%5	; DATA=000000
2551	011004	005205	INC	%5	; DATA=000001
2552	011006	000277	SCC		; SET CODES
2553	011010	005705	TST	%5	; TEST INC %5 INSTRUCTION
2554	011012	001001	BNE	.+4	
2555	011014	000000	HLT		; Z NOT CLEARED BY INC %5
2556	011016	100001	BPL	.+4	
2557	011020	000000	HLT		; N NOT CLEARED BY INC %5
2558	011022	000240	SCOPE		
2559	011024	005005	CLR	%5	; DATA=000000
2560	011026	005205	INC	%5	; DATA=000001
2561	011030	005305	DEC	%5	; DATA=000000
2562	011032	005705	TST	%5	; TEST THAT %5 IS CLEARED
2563	011034	001401	BEQ	.+4	
2564	011036	000000	HLT		; Z NOT SET
2565	011040	100001	BPL	.+4	
2566	011042	000000	HLT		
2567	011044	000240	SCOPE		; N NOT CLEARED
2568	011046	005005	CLR	%5	
2569	011050	000277	SCC		; DATA=000000
2570	011052	005405	NEG	%5	; DATA=000000
2571	011054	005705	TST	%5	
2572	011056	001401	BEQ	.+4	
2573	011060	000000	HLT		; Z NOT SET BY NEG %5
2574	011062	100001	BPL	.+4	
2575	011064	000000	HLT		; N NOT CLEARED BY NEG %5
2576	011066	000240	SCOPE		
2577	011070	000257	CCC		; C=0
2578	011072	005005	CLR	%5	; DATA=000000
2579	011074	005505	ADC	%5	; DATA=000000

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2580	011076	005705	TST	%5	;TEST FOR ZERO
2581	011100	001401	BEQ	+.4	
2582	011102	000000	HLT		;Z NOT SET
2583					
2584	011104	102001	BVC	+.4	
2585	011106	000000	HLT		;V NOT CLEARED
2586	011110	103001	BCC	+.4	
2587	011112	000000	HLT		;C NOT CLEARED
2588	011114	000240	SCOPE		
2589	011116	000277	SCC		;SET CODES, C=1
2590	011120	005005	CLR	%5	;DATA=000000
2591	011122	005105	COM	%5	;DATA=177777
2592	011124	000261	SEC		
2593	011126	005505	ADC	%5	;DATA=000000
2594	011130	005705	TST	%5	;SHOULD CLEAR C AND V
2595	011132	001401	BEQ	+.4	
2596	011134	000000	HLT		;Z NOT SET BY ADC %5
2597	011136	102001	BVC	+.4	
2598	011140	000000	HLT		;V NOT CLEAR BY TST %5
2599	011142	103001	BCC	+.4	
2600	011144	000000	HLT		;C NOT CLEAR BY TST %5
2601	011146	000240	SCOPE		
2602	011150	005005	CLR	%5	;DATA=000000
2603	011152	000277	SCC		;C=1
2604	011154	005605	SBC	%5	;DATA=177777, C=0
2605	011156	103401	BCS	+.4	
2606	011160	000000	HLT		;C NOT SET BY SBC %5
2607	011162	100401	BMI	+.4	
2608	011164	000000	HLT		;N NOT SET BY SBC %5
2609	011166	001001	BNE	+.4	
2610	011170	000000	HLT		;Z NOT CLEARED BY SBC %5
2611	011172	000240	SCOPE		
2612	011174	005005	CLR	%5	;DATA=000000
2613	011176	005205	INC	%5	;DATA=000001
2614	011200	000277	SCC		;C=1
2615	011202	005605	SBC	%5	;DATA=000000, C=0
2616	011204	005705	TST	%5	
2617	011206	001401	BEQ	+.4	
2618	011210	000000	HLT		;Z NOT SET BY SBC %5
2619	011212	102001	BVC	+.4	
2620	011214	000000	HLT		;V NOT CLEARED BY SBC %5
2621	011216	103001	BCC	+.4	
2622	011220	000000	HLT		; NOT CLEARED BY SBC %5
2623	011222	100001	BPL	+.4	
2624	011224	000000	HLT		;N NOT CLEARED BY SBC %5
2625	011226	000240	SCOPE		

;TEST 4A
 ;EFFECT OF BINARY ON CONDITION CODES

2626					
2627					
2628					
2629					
2630					
2631					
2632	000240		SCOPE=240		
2633	000000		HLT=0		
2634	000000		XX=0		
2635					

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2636                                     :TEST RELATIONSHIP OF BINARY INSTRUCTION AND CONDITION CODES
2637 011230 000277                       SCC                               ;SET C
2638 011232 012727 000000 000000       MOV      #0,#XX
2639 011240 001401                       BEQ      .+4
2640 011242 000000                       HLT                               ;MOV DID NOT SET Z
2641 011244 100001                       BPL      .+4
2642 011246 000000                       HLT                               ;MOV DID NOT CLEAR N
2643 011250 103401                       BCS      .+4
2644 011252 000000                       HLT                               ;MOV DID NOT LEAVE C SET
2645 011254 102001                       BVC      .+4
2646 011256 000000                       HLT                               ;MOV DID NOT CLEAR V
2647 011260 000240                       SCOPE
2648
2649 011262 000257                       CCC                               ;CLEAR C
2650 011264 012727 000000 000000       MOV      #0,#XX
2651 011272 001401                       BEQ      .+4
2652 011274 000000                       HLT                               ;MOV DID NOT SET Z
2653 011276 100001                       BPL      .+4
2654 011300 000000                       HLT                               ;MOV DID NOT CLEAR N
2655 011302 103001                       BCC      .+4
2656 011304 000000                       HLT                               ;MOV DID NOT LEAVE C CLEAR
2657 011306 102001                       BVC      .+4
2658 011310 000000                       HLT                               ;;MOV DID NOT CLEAR V
2659 011312 000240                       SCOPE

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2660									
2661	011314	000277				SCC			;SET C
2662	011316	012727	177777	000000		MOV	#-1, #XX		
2663	011324	001001				BNE	.+4		
2664	011326	000000				HLT			;MOV DID NOT CLEAR Z
2665	011330	102001				BVC	.+4		
2666	011332	000000				HLT			;MOV DID NOT CLEAR V
2667	011334	103401				BCS	.+4		
2668	011336	000000				HLT			;MOV DID NOT LEAVE C SET
2669	011340	100401				BMI	.+4		
2670	011342	000000				HLT			;MOV DID NOT SET N
2671	011344	000240				SCOPE			
2672									
2673	011346	000257				CCC			;CLEAR C
2674	011350	012727	177777	000000		MOV	#-1, #XX		
2675	011356	001001				BNE	.+4		;MOV DID NOT CLEAR Z
2676	011360	000000				HLT			
2677	011362	102001				BVC	.+4		;MOV DID NOT CLEAR V
2678	011364	000000				HLT			
2679	011366	103001				BCC	.+4		;MOV DID NOT LEAVE C CLEARED
2680	011370	000000				HLT			
2681	011372	100401				BMI	.+4		
2682	011374	000000				HLT			;MOV DID NOT SET N
2683	011376	000240				SCOPE			
2684									
2685									;ZERO TO ZERO ADD INSTRUCTIONS
2686	011400	005067	005754			CLR	TEMP		
2687	011404	000257				CCC			;CLEAR C
2688	011406	062767	000000	005744		ADD	#0, TEMP		;ADD ZERO TO ZERO
2689	011414	001401				BEQ	.+4		
2690	011416	000000				HLT			;ADD DID NOT SET Z
2691	011420	102001				BVC	.+4		
2692	011422	000000				HLT			;ADD DID NOT CLEAR V
2693	011424	103001				BCC	.+4		
2694	011426	000000				HLT			;ADD DID NOT LEAVE C CLEARED
2695	011430	100001				BPL	.+4		
2696	011432	000000				HLT			;ADD DID NOT CLEAR N
2697	011434	000240				SCOPE			
2698									
2699									;MINUS ONE TO MINUS ONE
2700	011436	012767	177777	005714		MOV	#-1, TEMP		
2701	011444	000257				CCC			;CLEAR C
2702	011446	062767	177777	005704		ADD	#-1, TEMP		
2703	011454	001001				BNE	.+4		
2704	011456	000000				HLT			;ADD DID NOT CLEAR Z
2705	011460	102001				BVC	.+4		
2706	011462	000000				HLT			;ADD, FALSE SET OF V
2707	011464	103401				BCS	.+4		
2708	011466	000000				HLT			;ADD DID NOT SET C
2709	011470	100401				BMI	.+4		
2710	011472	000000				HLT			;ADD NOT SET N
2711	011474	000240				SCOPE			

2712							
2713						:ADD ZERO TO MINUS ONE	
2714	011476	005067	005656			CLR TEMP	;TEMP=ZERO
2715	011502	000257				CCC	;CLEAR C
2716	011504	062767	177777	005646		ADD #-1,TEMP	
2717	011512	001001				BNE .+4	
2718	011514	000000				HLT	;ADD DID NOT CLEAR Z
2719	011516	102001				BVC .+4	
2720	011520	000000				HLT	;ADD DID NOT CLEAR V
2721	011522	103001				BCC .+4	
2722	011524	000000				HLT	;ADD DID NOT CLEAR C
2723	011526	100401				BMI .+4	
2724	011530	000000				HLT	;ADD DID NOT SET N
2725	011532	000240				SCOPE	
2726							
2727						:ADD MOST MINUS TO MOST MINUS	
2728	011534	012767	100000	005616		MOV #100000,TEMP	
2729	011542	000257				CCC	;CLEAR CONDITION CODES
2730	011544	062767	100000	005606		ADD #100000,TEMP	
2731	011552	001401				BEQ .+4	
2732	011554	000000				HLT	;ADD DID NOT SET Z
2733	011556	102401				BVS .+4	
2734	011560	000000				HLT	;ADD DID NOT SET V
2735	011562	103401				BCS .+4	
2736	011564	000000				HLT	;ADD DID NOT SET C
2737	011566	100001				BPL .+4	
2738	011570	000000				HLT	;ADD DID NOT CLEAR N
2739	011572	000240				SCOPE	
2740							
2741						:ADD 4000 TO ZERO	
2742	011574	005067	005560			CLR TEMP	
2743	011600	000257				CCC	
2744	011602	062767	040000	005550		ADD #40000,TEMP	
2745	011610	001001				BNE .+4	
2746	011612	000000				HLT	;ADD DID NOT CLEAR Z
2747	011614	102001				BVC .+4	
2748	011616	000000				HLT	;ADD DID NOT CLEAR V
2749	011620	103001				BCC .+4	
2750	011622	000000				HLT	;ADD DID NOT CLEAR C
2751	011624	100001				BPL .+4	
2752	011626	000000				HLT	;ADD DID NOT CLEAR N
2753	011630	000240				SCOPE	
2754							
2755						:ADD 40000 TO 40000	
2756	011632	012767	040000	005520		MOV #40000,TEMP	
2757	011640	000257				CCC	
2758	011642	062767	040000	005510		ADD #40000,TEMP	
2759	011650	001001				BNE .+4	
2760	011652	000000				HLT	;ADD DID NOT CLEAR Z
2761	011654	102401				BVS .+4	
2762	011656	000000				HLT	;ADD DID NOT SET V
2763	011660	103001				BCC .+4	
2764	011662	000000				HLT	;ADD DID NOT CLEAR C
2765	011664	100401				BMI .+4	;ADD DID NOT SET N
2766	011666	000000				HLT	
2767	011670	000240				SCOPE	

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2768
2769
2770           ;REPEAT THE ABOVE WITH CC SET
2771
2772           ;TEST THE SUBTRACT INSTRUCTION AND CHECK CONDITIONS CODES
2773 011672 005067 005462           CLR      TEMP
2774 011676 000257           CCC
2775 011700 162767 000000 005452  SUB      #0,TEMP
2776 011706 001401           BEQ      .+4
2777 011710 000000           HLT              ;SUB DID NOT SET Z
2778 011712 102001           BVC      .+4
2779 011714 000000           HLT              ;SUB DID NOT CLEAR V
2780 011716 103001           BCC      .+4
2781 011720 000000           HLT              ;SUB DID NOT CLEAR C
2782 011722 100001           BPL      .+4
2783 011724 000000           HLT              ;SUB DID NOT CLEAR N
2784 011726 000240           SCOPE
2785
2786 011730 012767 177777 005422  MOV      #-1,TEMP
2787 011736 000257           CCC
2788 011740 162767 177777 005412  SUB      #-1,TEMP
2789 011746 001401           BEQ      .+4
2790 011750 000000           HLT              ;SUB DID NOT SET Z
2791 011752 102001           BVC      .+4
2792 011754 000000           HLT              ;SUB DID NOT CLEAR V
2793 011756 103001           BCC      .+4
2794 011760 000000           HLT              ;SUB DID NOT CLEAR C
2795 011762 100001           BPL      .+4
2796 011764 000000           HLT              ;SUB DID NOT CLEAR N
2797 011766 000240           SCOPE
2798
2799 011770 012767 177777 005362  MOV      #-1,TEMP
2800 011776 000257           CCC
2801 012000 162767 000000 005352  SUB      #0,TEMP
2802 012006 001001           BNE      .+4
2803 012010 000000           HLT              ;SUB DID NOT CLEAR N
2804 012012 102001           BVC      .+4
2805 012014 000000           HLT              ;SUB DID NOT CLEAR V
2806 012016 103001           BCC      .+4
2807 012020 000000           HLT              ;SUB DID NOT CLEAR C
2808 012022 100401           BMI      .+4
2809 012024 000000           HLT              ;SUB DID NOT SET N
2810 012026 000240           SCOPE
2811
2812 012030 005067 005324           CLR      TEMP
2813 012034 000257           CCC
2814 012036 162767 177777 005314  SUB      #-1,TEMP
2815 012044 001001           BNE      .+4
2816 012046 000000           HLT              ;SUB DID NOT CLEAR Z
2817 012050 102001           BVC      .+4
2818 012052 000000           HLT              ;SUB DID NOT CLEAR V
2819 012054 103401           BCS      .+4
2820 012056 000000           HLT              ;SUB DID NOT SET C
  
```

2821							
2822	012060	100001			BPL	.+4	
2823	012052	000000			HLT		;SUB DID NOT CLEAR N
2824	012064	000240			SCOPE		
2825							
2826	012066	012767	100000	005264	MOV	#100000,TEMP	
2827	012074	000257			CCC		
2828	012076	162767	040000	005254	SUB	#40000,TEMP	
2829	012104	001001			BNE	.+4	
2830	012106	000000			HLT		;SUB DID NOT CLEAR Z
2831	012110	102401			BVS	.+4	
2832	012112	000000			HLT		;SUB DID NOT SET V
2833	012114	103001			BCC	.+4	
2834	012116	000000			HLT		;SUB DID NOT CLEAR C
2835	012120	100001			BPL	.+4	
2836	012122	000000			HLT		;SUB DID NOT CLEAR N
2837	012124	000240			SCOPE		
2838							
2839	012126	012767	040000	005224	MOV	#40000,TEMP	
2840	012134	000257			CCC		
2841	012136	162767	100000	005214	SUB	#100000,TEMP	
2842	012144	001001			BNE	.+4	
2843	012146	000000			HLT		;SUB DID NOT CLEAR N
2844	012150	102401			BVS	.+4	
2845	012152	000000			HLT		;SUB DID NOT SET V
2846	012154	103401			BCS	.+4	
2847	012156	000000			HLT		;SUB DID NOT SET C
2848	012160	103401			BMI	.+4	
2849	012162	000000			HLT		;SUB DID NOT SET N
2850	012164	000240			SCOPE		
2851							
2852	012166	012767	040000	005164	MOV	#40000,TEMP	
2853	012174	000257			CCC		
2854	012176	162767	040000	005154	SUB	#40000,TEMP	
2855	012204	001401			BEQ	.+4	
2856	012206	000000			HLT		;SUB DID NOT SET Z
2857	012210	102001			BVC	.+4	
2858	012212	000000			HLT		;SUB DID NOT CLEAR V
2859	012214	103001			BCC	.+4	
2860	012216	000000			HLT		;SUB DID NOT CLEAR C
2861	012220	100001			BPL	.+4	
2862	012222	000000			HLT		;SUB DID NOT CLEAR N
2863	012224	000240			SCOPE		

2864						
2865	012226	000257			CCC	
2866	012230	022727	000000	000000	CMP	#0, #0
2867	012236	001401			BEQ	.+4
2868	012240	000000			HLT	
2869	012242	102001			BVC	.+4
2870	012244	000000			HLT	
2871	012246	103001			BCC	.+4
2872	012250	000000			HLT	
2873	012252	100001			BPL	.+4
2874	012254	000000			HLT	
2875	012256	000240			SCOPE	
2876						
2877	012260	000257			CCC	
2878	012262	022727	177777	177777	CMP	#-1, #-1
2879	012270	001401			BEQ	.+4
2880	012272	000000			HLT	
2881	012274	102001			BVC	.+4
2882	012276	000000			HLT	
2883	012300	103001			BCC	.+4
2884	012302	000000			HLT	
2885	012304	100001			BPL	.+4
2886	012306	000000			HLT	
2887	012310	000240			SCOPE	
2888						
2889	012312	000257			CCC	
2890	012314	022727	177777	000000	CMP	#-1, #0
2891	012322	001001			BNE	.+4
2892	012324	000000			HLT	
2893	012326	102001			BVC	.+4
2894	012330	000000			HLT	
2895	012332	103001			BCC	.+4
2896	012334	000000			HLT	
2897	012336	100401			BMI	.+4
2898	012340	000000			HLT	
2899	012342	000240			SCOPE	
2900						
2901	012344	000257			CCC	
2902	012346	022727	000000	177777	CMP	#0, #-1
2903	012354	001001			BNE	.+4
2904	012356	000000			HLT	
2905	012360	102001			BVC	.+4
2906	012362	000000			HLT	
2907	012364	103401			BCS	.+4
2908	012366	000000			HLT	
2909	012370	100001			BPL	.+4
2910	012372	000000			HLT	
2911	012374	000240			SCOPE	

2912						
2913	012376	000257			CCC	
2914	012400	022727	100000	040000	CMP	#100000, #40000
2915	012406	001001			BNE	.+4
2916	012410	000000			HLT	
2917	012412	102401			BVS	.+4
2918	012414	000000			HLT	
2919	012416	103001			BCC	.+4
2920	012420	000000			HLT	
2921	012422	100001			BPL	.+4
2922	012424	000000			HLT	
2923	012426	000240			SCOPE	
2924						
2925	012430	000257			CCC	
2926	012432	022727	040000	100000	CMP	#40000, #100000
2927	012440	001001			BNE	.+4
2928	012442	000000			HLT	
2929	012444	102401			BVS	.+4
2930	012446	000000			HLT	
2931	012450	103401			BCS	.+4
2932	012452	000000			HLT	
2933	012454	100401			BMI	.+4
2934	012456	000000			HLT	
2935	012460	000240			SCOPE	
2936						
2937	012462	000257			CCC	
2938	012464	022727	040000	040000	CMP	#40000, #40000
2939	012472	001401			BEQ	.+4
2940	012474	000000			HLT	
2941	012476	102001			BVC	.+4
2942	012500	000000			HLT	
2943	012502	103001			BCC	.+4
2944	012504	000000			HLT	
2945	012506	100001			BPL	.+4
2946	012510	000000			HLT	
2947	012512	000240			SCOPE	
2948						
2949	012514	000257			CCC	
2950	012516	022727	010000	010000	CMP	#10000, #10000
2951	012524	001401			BEQ	.+4
2952	012526	000000			HLT	
2953	012530	102001			BVC	.+4
2954	012532	000000			HLT	
2955	012534	103001			BCC	.+4
2956	012536	000000			HLT	
2957	012540	100001			BPL	.+4
2958	012542	000000			HLT	
2959	012544	000240			SCOPE	

2960						
2961	012546	012767	177777	004604	MOV	#-1,TEMP
2962	012554	000257			CCC	
2963	012556	042767	177777	004574	BIC	#-1,TEMP
2964	012564	001401			BEQ	.+4
2965	012566	000000			HLT	
2966	012570	100001			BPL	.+4
2967	012572	000000			HLT	
2968	012574	102001			BVC	.+4
2969	012576	000000			HLT	;BINARY SET V
2970	012600	103001			BCC	.+4
2971	012602	000000			HLT	;BINARY SET C
2972	012604	000240			SCOPE	
2973						
2974	012606	005067	004546		CLR	TEMP
2975	012612	000257			CCC	
2976	012614	042767	177777	004536	BIC	#-1,TEMP
2977	012622	001401			BEQ	.+4
2978	012624	000000			HLT	
2979	012626	100001			BPL	.+4
2980	012630	000000			HLT	
2981	012632	102001			BVC	.+4
2982	012634	000000			HLT	;BINARY SET V
2983	012636	103001			BCC	.+4
2984	012640	000000			HLT	;BINARY SET C
2985	012642	000240			SCOPE	
2986						
2987	012644	012767	177777	004506	MOV	#-1,TEMP
2988	012652	000257			CCC	
2989	012654	042767	000000	004476	BIC	#0,TEMP
2990	012662	001001			BNE	.+4
2991	012664	000000			HLT	
2992	012666	100401			BMI	.+4
2993	012670	000000			HLT	
2994	012672	102001			BVC	.+4
2995	012674	000000			HLT	;BINARY SET V
2996	012676	103001			BCC	.+4
2997	012700	000000			HLT	;BINARY SET C
2998	012702	000240			SCOPE	
2999						
3000	012704	005067	004450		CLR	TEMP
3001	012710	000257			CCC	
3002	012712	032767	000000	004440	BIT	#0,TEMP
3003	012720	001401			BEQ	.+4
3004	012722	000000			HLT	
3005	012724	100001			BPL	.+4
3006	012726	000000			HLT	
3007	012730	102001			BVC	.+4
3008	012732	000000			HLT	;BINARY SET V
3009	012734	103001			BCC	.+4
3010	012736	000000			HLT	;BINARY SET C
3011	012740	000240			SCOPE	
3012						
3013	012742	012767	052525	004410	MOV	#52525,TEMP
3014	012750	000257			CCC	
3015	012752	042767	052525	004400	BIC	#52525,TEMP

3025						
3026	013002	012767	100000	004350	MOV	#100000,TEMP
3027	013010	000257			CCC	
3028	013012	042767	077777	004340	BIC	#77777,TEMP
3029	013020	001001			BNE	.+4
3030	013022	000000			HLT	
3031	013024	100401			BMI	.+4
3032	013026	000000			HLT	
3033	013030	102001			BVC	.+4
3034	013032	000000			HLT	;BINARY SET V
3035	013034	103001			BCC	.+4
3036	013036	000000			HLT	;BINARY SET C
3037	013040	000240			SCOPE	
3038						
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3080						

;BIT TEST INSTRUCTION

3081	013176	000000		HLT		
3082	013200	102001		BVC	.+4	
3083	013202	000000		HLT		;BINARY SET V
3084	013204	103001		BCC	.+4	
3085	013206	000000		HLT		;BINARY SET C
3086	013210	000240		SCOPE		
3087						
3088	013212	000257		CCC		
3089	013214	032727	177777 077777	BIT	#-1, #77777	
3090	013222	001001		BNE	.+4	
3091	013224	000000		HLT		
3092	013226	100001		SPL	.+4	
3093	013230	000000		HLT		
3094	013232	102001		BVC	.+4	
3095	013234	000000		HLT		;BINARY SET V
3096	013236	103001		BCC	.+4	
3097	013240	000000		HLT		;BINARY SET C
3098	013242	000240		SCOPE		

3099							
3100	013244	000257			CCC		
3101	013246	032727	052525	125252	BIT	#52525, #125252	
3102	013254	001401			BEQ	.+4	
3103	013256	000000			HLT		
3104	013260	100001			BPL	.+4	
3105	013262	000000			HLT		
3106	013264	102001			BVC	.+4	
3107	013266	000000			HLT		;BINARY SET V
3108	013270	103001			BCC	.+4	
3109	013272	000000			HLT		;BINARY SET C
3110	013274	000240			SCOPE		
3111							
3112	013276	000257			CCC		
3113	013300	132727	177777	177777	BITB	#-1, #-1	
3114	013306	001001			BNE	.+4	
3115	013310	000000			HLT		
3116	013312	100401			BMI	.+4	
3117	013314	000000			HLT		
3118	013316	102001			BVC	.+4	
3119	013320	000000			HLT		;BINARY SET V
3120	013322	103001			BCC	.+4	
3121	013324	000000			HLT		;BINARY SET C
3122	013326	000240			SCOPE		
3123							
3124	013330	000257			CCC		
3125	013332	132727	177777	177400	BITB	#-1, #177400	
3126	013340	001401			BEQ	.+4	
3127	013342	000000			HLT		
3128	013344	100001			BPL	.+4	
3129	013346	000000			HLT		
3130	013350	102001			BVC	.+4	
3131	013352	000000			HLT		;BINARY SET V
3132	013354	103001			BCC	.+4	
3133	013356	000000			HLT		;BINARY SET C
3134	013360	000240			SCOPE		
3135							
3136	013362	000257			CCC		
3137	013364	132727	077777	000377	BITB	#77777, #377	
3138	013372	001001			BNE	.+4	
3139	013374	000000			HLT		
3140	013376	100401			BMI	.+4	
3141	013400	000000			HLT		
3142	013402	102001			BVC	.+4	
3143	013404	000000			HLT		;BINARY SET V
3144	013406	103001			BCC	.+4	
3145	013410	000000			HLT		;BINARY SET C
3146	013412	000240			SCOPE		
3147							
3148							;BIT SET INSTRUCTION
3149	013414	005067	003740		CLR	TEMP	
3150	013420	000257			CCC		
3151	013422	052767	000000	003730	BIS	#0, TEMP	
3152	013430	001401			BEQ	.+4	
3153	013432	000000			HLT		
3154	013434	!00001			BPL	.+4	

3155	013436	000000			HLT		
3156	013440	102001			BVC	.+4	
3157	013442	000000			HLT		;BINARY SET V
3158	013444	103001			BCC	.+4	
3159	013446	000000			HLT		;BINARY SET C
3160	013450	000240			SCOPE		
3161							
3162	013452	012767	177777	003700	MOV	#-1, TEMP	
3163	013460	000257			CCC		
3164	013462	052767	000000	003670	BIS	#0, TEMP	
3165	013470	001001			BNE	.+4	
3166	013472	000000			HLT		
3167	013474	100401			BMI	.+4	
3168	013476	000000			HLT		
3169	013500	102001			BVC	.+4	
3170	013502	000000			HLT		;BINARY SET V
3171	013504	103001			BCC	.+4	
3172	013506	000000			HLT		;BINARY SET C
3173	013510	000240			SCOPE		

3174						
3175	013512	005067	003642	CLR	TEMP	
3176	013516	000257		CCC		
3177	013520	052767	177777 003632	BIS	#-1, TEMP	
3178	013526	001001		BNE	.+4	
3179	013530	000000		HLT		
3180	013532	100401		BMI	.+4	
3181	013534	000000		HLT		
3182	013536	102001		BVC	.+4	
3183	013540	000000		HLT		;BINARY SET V
3184	013542	103001		BCC	.+4	
3185	013544	000000		HLT		;BINARY SET C
3186	013546	000240		SCOPE		
3187						
3188	013550	012767	177777 003602	MOV	#-1, TEMP	
3189	013556	000257		CCC		
3190	013560	052767	177777 003572	BIS	#-1, TEMP	
3191	013566	001001		BNE	.+4	
3192	013570	000000		HLT		
3193	013572	100401		BMI	.+4	
3194	013574	000000		HLT		
3195	013576	102001		BVC	.+4	
3196	013600	000000		HLT		;BINARY SET V
3197	013602	103001		BCC	.+4	
3198	013604	000000		HLT		;BINARY SET C
3199	013606	000240		SCOPE		
3200						
3201	013610	005067	003544	CLR	TEMP	
3202	013614	000257		CCC		
3203	013616	052767	077777 003534	BIS	#77777, TEMP	
3204	013624	001001		BNE	.+4	
3205	013626	000000		HLT		
3206	013630	100001		BPL	.+4	
3207	013632	000000		HLT		
3208	013634	102001		BVC	.+4	
3209	013636	000000		HLT		;BINARY SET V
3210	013640	103001		BCC	.+4	
3211	013642	000000		HLT		;BINARY SET C
3212	013644	000240		SCOPE		
3213						
3214	013646	005067	003506	CLR	TEMP	
3215	013652	000257		CCC		
3216	013654	152767	1 7577 003476	BISB	#177577, TEMP	
3217	013662	001001		BNE	.+4	
3218	013664	000000		HLT		
3219	013666	100001		BPL	.+4	
3220	013670	000000		HLT		
3221	013672	102001		BVC	.+4	
3222	013674	000000		HLT		;BINARY SET V
3223	013676	103001		BCC	.+4	
3224	013700	000000		HLT		;BINARY SET C
3225	013702	000240		SCOPE		

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3226
3227
3228
3229
3230
3231      000000      XX=0
3232
3233      ;TEST RELATIONSHIP OF BINARY INSTRUCTION AND CONDITION CODES
3234 013704 000277      SCC      ;SET C
3235 01370E 012727 000000 000000      MOV      #0, #XX
3236 013714 001401      BEQ      .+4
3237 013716 000000      HLT      ;MOV DID NOT SET Z
3238 013720 100001      BPL      .+4
3239 013722 000000      HLT      ;MOV DID NOT CLEAR N
3240 013724 103401      BCS      .+4
3241 013726 000000      HLT      ;MOV DID NOT LEAVE C SET
3242 013730 102001      BVC      .+4
3243 013732 000000      HLT      ;MOV DID NOT CLEAR V
3244 013734 000240      SCOPE
3245
3246 013736 000277      SCC      ;CLEAR C
3247 013740 012727 000000 000000      MOV      #0, #XX
3248 013746 001401      BEQ      .+4
3249 013750 000000      HLT      ;MOV DID NOT SET Z
3250 013752 100001      BPL      .+4
3251 013754 000000      HLT      ;MOV DID NOT CLEAR N
3252 013756 103401      BCS      .+4
3253 013760 000000      HLT      ;MOV DID NOT LEAVE C SET
3254 013762 102001      BVC      .+4
3255 013764 000000      HLT      ;;MOV DID NOT CLEAR V
3256 01376E 000240      SCOPE
  
```

3257									
3258	013770	000277				SCC			;SET C
3259	013772	012727	177777	000000		MOV	#-1, #XX		
3260	014000	001001				BNE	.+4		
3261	014002	000000				HLT			;MOV DID NOT CLEAR Z
3262	014004	102001				BVC	.+4		
3263	014006	000000				HLT			;MOV DID NOT CLEAR V
3264	014010	103401				BCS	.+4		
3265	014012	000000				HLT			;MOV DID NOT LEAVE C SET
3266	014014	100401				BMI	.+4		
3267	014016	000000				HLT			;MOV DID NOT SET N
3268	014020	000240				SCOPE			
3269									
3270	014022	000277				SCC			;CLEAR C
3271	014024	012727	177777	000000		MOV	#-1, #XX		
3272	014032	001001				BNE	.+4		;MOV DID NOT CLEAR Z
3273	014034	000000				HLT			
3274	014036	102001				BVC	.+4		;MOV DID NOT CLEAR V
3275	014040	000000				HLT			
3276	014042	103401				BCS	.+4		;MOV DID NOT SET C
3277	014044	000000				HLT			
3278	014046	100401				BMI	.+4		
3279	014050	000000				HLT			;MOV DID NOT SET N
3280	014052	000240				SCOPE			
3281									
3282									;ZERO TO ZERO ADD INSTRUCTIONS
3283	014054	005067	003300			CLR	TEMP		
3284	014060	000277				SCC			;CLEAR C
3285	014062	062767	000000	003270		ADD	#0, TEMP		;ADD ZERO TO ZERO
3286	014070	001401				BEQ	.+4		
3287	014072	000000				HLT			;ADD DID NOT SET Z
3288	014074	102001				BVC	.+4		
3289	014076	000000				HLT			;ADD DID NOT CLEAR V
3290	014100	103001				BCC	.+4		
3291	014102	000000				HLT			;ADD DID NOT CLEAR C
3292	014104	100001				BPL	.+4		
3293	014106	000000				HLT			;ADD DID NOT CLEAR N
3294	014110	000240				SCOPE			
3295									
3296									;MINUS ONE TO MINUS ONE
3297	014112	012767	177777	003240		MOV	#-1, TEMP		
3298	014120	000277				SCC			;CLEAR C
3299	014122	062767	177777	003230		ADD	#-1, TEMP		
3300	014130	001001				BNE	.+4		
3301	014132	000000				HLT			;ADD DID NOT CLEAR Z
3302	014134	102001				BVC	.+4		
3303	014136	000000				HLT			;ADD, FALSE SET OF V
3304	014140	103401				BCS	.+4		
3305	014142	000000				HLT			;ADD DID NOT SET C
3306	014144	100401				BMI	.+4		
3307	014146	000000				HLT			;ADD NOT SET N
3308	014150	000240				SCOPE			

3309							
3310							
3311	014152	005067	003202				
3312	014156	000277					
3313	014160	062767	177777	003172			
3314	014166	001001					
3315	014170	000000					
3316	014172	102001					
3317	014174	000000					
3318	014176	103001					
3319	014200	000000					
3320	014202	100401					
3321	014204	000000					
3322	014206	000240					
3323							
3324							
3325	014210	012767	100000	003142			
3326	014216	000277					
3327	014220	062767	100000	003132			
3328	014226	001401					
3329	014230	000000					
3330	014232	102401					
3331	014234	000000					
3332	014236	103401					
3333	014240	000000					
3334	014242	100001					
3335	014244	000000					
3336	014246	000240					
3337							
3338							
3339	014250	005067	003104				
3340	014254	000277					
3341	014256	062767	040000	003074			
3342	014264	001001					
3343	014266	000000					
3344	014270	102001					
3345	014272	000000					
3346	014274	103001					
3347	014276	000000					
3348	014300	100001					
3349	014302	000000					
3350	014304	000240					
3351							
3352							
3353	014306	012767	040000	003044			
3354	014314	000277					
3355	014316	062767	040000	003034			
3356	014324	001001					
3357	014326	000000					
3358	014330	102401					
3359	014332	000000					
3360	014334	103001					
3361	014336	000000					
3362	014340	100401					
3363	014342	000000					
3364	014344	000240					

;ADD ZERO TO MINUS ONE

;ADD MOST MINUS TO MOST MINUS

;ADD 4000 TO ZERO

;ADD 40000 TO 40000

CLR TEMP ;TEMP=ZERO
 SCC ;CLEAR C
 ADD #-1,TEMP
 BNE .+4
 HLT ;ADD DID NOT CLEAR Z
 BVC .+4 ;ADD DID NOT CLEAR V
 HLT ;ADD DID NOT CLEAR C
 BCC .+4 ;ADD DID NOT SET N
 HLT
 BMI .+4
 HLT
 SCOPE

MOV #100000,TEMP ;CLEAR CONDITION CODES
 SCC
 ADD #100000,TEMP
 BEQ .+4 ;ADD DID NOT SET Z
 HLT ;ADD DID NOT SET V
 BVS .+4 ;ADD DID NOT SET C
 HLT ;ADD DID NOT CLEAR N
 BCS .+4
 HLT
 BPL .+4
 HLT
 SCOPE

CLR TEMP
 SCC
 ADD #40000,TEMP
 BNE .+4 ;ADD DID NOT CLEAR Z
 HLT ;ADD DID NOT CLEAR V
 BVC .+4 ;ADD DID NOT CLEAR C
 HLT ;ADD DID NOT CLEAR N
 BCC .+4
 HLT
 BPL .+4
 HLT
 SCOPE

MOV #40000,TEMP
 SCC
 ADD #40000,TEMP
 BNE .+4 ;ADD DID NOT CLEAR Z
 HLT ;ADD DID NOT SET V
 BVS .+4 ;ADD DID NOT CLEAR C
 HLT ;ADD DID NOT SET N
 BCC .+4
 HLT
 BMI .+4
 HLT
 SCOPE

```

3365
3366
3367           :REPEAT THE ABOVE WITH CC SET
3368
3369           ;TEST THE SUBTRACT INSTRUCTION AND CHECK CONDITIONS CODES
3370 014346 005067 003006          CLR      TEMP
3371 014352 000277          SCC
3372 014354 162767 000000 002776  SUB      #0,TEMP
3373 014362 001401          BEQ      .+4
3374 014364 000000          HLT              ;SUB DID NOT SET Z
3375 014366 102001          BVC      .+4
3376 014370 000000          HLT              ;SUB DID NOT CLEAR V
3377 014372 103001          SCC      .+4
3378 014374 000000          HLT              ;SUB DID NOT CLEAR C
3379 014376 100001          BPL      .+4
3380 014400 000000          HLT              ;SUB DID NOT CLEAR N
3381 014402 000240          SCOPE
3382
3383 014404 012767 177777 002746  MOV      #-1,TEMP
3384 014412 000277          SCC
3385 014414 162767 177777 002736  SUB      #-1,TEMP
3386 014422 001401          BEQ      .+4
3387 014424 000000          HLT              ;SUB DID NOT SET Z
3388 014426 102001          BVC      .+4
3389 014430 000000          HLT              ;SUB DID NOT CLEAR V
3390 014432 103001          BCC      .+4
3391 014434 000000          HLT              ;SUB DID NOT CLEAR C
3392 014436 100001          BPL      .+4
3393 014440 000000          HLT              ;SUB DID NOT CLEAR N
3394 014442 000240          SCOPE
3395
3396 014444 012767 177777 002706  MOV      #-1,TEMP
3397 014452 000277          SCC
3398 014454 162767 000000 002676  SUB      #0,TEMP
3399 014462 001001          BNE      .+4
3400 014464 000000          HLT              ;SUB DID NOT CLEAR N
3401 014466 102001          BVC      .+4
3402 014470 000000          HLT              ;SUB DID NOT CLEAR V
3403 014472 103001          BCC      .+4
3404 014474 000000          HLT              ;SUB DID NOT CLEAR C
3405 014476 100401          BMI      .+4
3406 014500 000000          HLT              ;SUB DID NOT SET N
3407 014502 000240          SCOPE
3408
3409 014504 005067 002650          CLR      TEMP
3410 014510 000277          SCC
3411 014512 162767 177777 002640  SUB      #-1,TEMP
3412 014520 001001          BNE      .+4
3413 014522 000000          HLT              ;SUB DID NOT CLEAR Z
3414 014524 102001          BVC      .+4
3415 014526 000000          HLT              ;SUB DID NOT CLEAR V
3416 014530 103401          BCS      .+4
3417 014532 000000          HLT              ;SUB DID NOT SET C

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3418									
3419	014534	100001			BPL	.+4			
3420	014536	000000			HLT			;SUB DID NOT CLEAR N	
3421	014540	000240			SCOPE				
3422									
3423	014542	012767	100000	002610	MOV	#100000,TEMP			
3424	014550	000277			SCC				
3425	014552	162767	040000	002600	SUB	#40000,TEMP			
3426	014560	001001			BNE	.+4			
3427	014562	000000			HLT			;SUB DID NOT CLEAR Z	
3428	014564	102401			BVS	.+4			
3429	014566	000000			HLT			;SUB DID NOT SET V	
3430	014570	103001			BCC	.+4			
3431	014572	000000			HLT			;SUB DID NOT CLEAR C	
3432	014574	100001			BPL	.+4			
3433	014576	000000			HLT			;SUB DID NOT CLEAR N	
3434	014600	000240			SCOPE				
3435									
3436	014602	012767	040000	002550	MOV	#40000,TEMP			
3437	014610	000277			SCC				
3438	014612	162767	100000	002540	SUB	#100000,TEMP			
3439	014620	001001			BNE	.+4			
3440	014622	000000			HLT			;SUB DID NOT CLEAR N	
3441	014624	102401			BVS	.+4			
3442	014626	000000			HLT			;SUB DID NOT SET V	
3443	014630	103401			BCS	.+4			
3444	014632	000000			HLT			;SUB DID NOT SET C	
3445	014634	100401			BMI	.+4			
3446	014636	000000			HLT			;SUB DID NOT SET N	
3447	014640	000240			SCOPE				
3448									
3449	014642	012767	040000	002510	MOV	#40000,TEMP			
3450	014650	000277			SCC				
3451	014652	162767	040000	002500	SUB	#40000,TEMP			
3452	014660	001401			BEQ	.+4			
3453	014662	000000			HLT			;SUB DID NOT SET Z	
3454	014664	102001			BVC	.+4			
3455	014666	000000			HLT			;SUB DID NOT CLEAR V	
3456	014670	103001			BCC	.+4			
3457	014672	000000			HLT			;SUB DID NOT CLEAR C	
3458	014674	100001			BPL	.+4			
3459	014676	000000			HLT			;SUB DID NOT CLEAR N	
3460	014700	000240			SCOPE				

3461						
3462	014702	000277			SCC	
3463	014704	022727	000000	000000	CMP	#0,#0
3464	014712	001401			BEQ	.+4
3465	014714	000000			HLT	
3466	014716	102001			BVC	.+4
3467	014720	000000			HLT	
3468	014722	103001			BCC	.+4
3469	014724	000000			HLT	
3470	014726	100001			BPL	.+4
3471	014730	000000			HLT	
3472	014732	000240			SCOPE	
3473						
3474	014734	000277			SCC	
3475	014736	022727	177777	177777	CMP	#-1,#-1
3476	014744	001401			BEQ	.+4
3477	014746	000000			HLT	
3478	014750	102001			BVC	.+4
3479	014752	000000			HLT	
3480	014754	103001			BCC	.+4
3481	014756	000000			HLT	
3482	014760	100001			BPL	.+4
3483	014762	000000			HLT	
3484	014764	000240			SCOPE	
3485						
3486	014766	000277			SCC	
3487	014770	022727	177777	000000	CMP	#-1,#0
3488	014776	001001			BNE	.+4
3489	015000	000000			HLT	
3490	015002	102001			BVC	.+4
3491	015004	000000			HLT	
3492	015006	103001			BCC	.+4
3493	015010	000000			HLT	
3494	015012	100401			BMI	.+4
3495	015014	000000			HLT	
3496	015016	000240			SCOPE	
3497						
3498	015020	000277			SCC	
3499	015022	022727	000000	177777	CMP	#0,#-1
3500	015030	001001			BNE	.+4
3501	015032	000000			HLT	
3502	015034	102001			BVC	.+4
3503	015036	000000			HLT	
3504	015040	103401			BCS	.+4
3505	015042	000000			HLT	
3506	015044	100001			BPL	.+4
3507	015046	000000			HLT	
3508	015050	000240			SCOPE	

3509						
3510	015052	000277			SCC	
3511	015054	022727	100000	040000	CMP	#100000, #40000
3512	015062	001001			BNE	.+4
3513	015064	000000			HLT	
3514	015066	102401			BVS	.+4
3515	015070	000000			HLT	
3516	015072	103001			BCC	.+4
3517	015074	000000			HLT	
3518	015076	100001			BPL	.+4
3519	015100	000000			HLT	
3520	015102	000240			SCOPE	
3521						
3522	015104	000277			SCC	
3523	015106	022727	040000	100000	CMP	#40000, #100000
3524	015114	001001			BNE	.+4
3525	015116	000000			HLT	
3526	015120	102401			BVS	.+4
3527	015122	000000			HLT	
3528	015124	103401			BCS	.+4
3529	015126	000000			HLT	
3530	015130	100401			BMI	.+4
3531	015132	000000			HLT	
3532	015134	000240			SCOPE	
3533						
3534	015136	000277			SCC	
3535	015140	022727	040000	040000	CMP	#40000, #40000
3536	015146	001401			BEQ	.+4
3537	015150	000000			HLT	
3538	015152	102001			BVC	.+4
3539	015154	000000			HLT	
3540	015156	103001			BCC	.+4
3541	015160	000000			HLT	
3542	015162	100001			BPL	.+4
3543	015164	000000			HLT	
3544	015166	000240			SCOPE	
3545						
3546	015170	000277			SCC	
3547	015172	022727	010000	010000	CMP	#10000, #10000
3548	015200	001401			BEQ	.+4
3549	015202	000000			HLT	
3550	015204	102001			BVC	.+4
3551	015206	000000			HLT	
3552	015210	103001			BCC	.+4
3553	015212	000000			HLT	
3554	015214	100001			BPL	.+4
3555	015216	000000			HLT	
3556	015220	000240			SCOPE	

3622								
3623	015456	012767	100000	001674	MOV	#100000,TEMP		
3624	015464	000277			SCC			
3625	015466	042767	077777	001664	BIC	#77777,TEMP		
3626	015474	001001			BNE	+.4		
3627	015476	000000			HLT			
3628	015500	100401			SMI	+.4		
3629	015502	000000			HLT			
3630	015504	102001			BVC	+.4		
3631	015506	000000			HLT			;BINARY SET V
3632	015510	103401			BCS	+.4		
3633	015512	000000			HLT			;BINARY CLEARED C
3634	015514	000240			SCOPE			
3635								
3636								
3637	015516	000277						;BIT TEST INSTRUCTION
3638	015520	032727	000000	000000	SCC			
3639	015526	001401			BIT	#0,#0		
3640	015530	000000			BEQ	+.4		
3641	015532	100001			HLT			
3642	015534	000000			BPL	+.4		
3643	015536	102001			HLT			
3644	015540	000000			BVC	+.4		
3645	015542	103401			HLT			;BINARY SET V
3646	015544	000000			BCS	+.4		
3647	015546	000240			HLT			;BINARY CLEARED C
3648					SCOPE			
3649	015550	000277						
3650	015552	032727	177777	000000	SCC			
3651	015556	001401			BIT	#-1,#0		
3652	015562	000000			BEQ	+.4		
3653	015564	100001			HLT			
3654	015566	000000			BPL	+.4		
3655	015570	102001			HLT			
3656	015572	000000			BVC	+.4		
3657	015574	103401			HLT			;BINARY SET V
3658	015576	000000			BCS	+.4		
3659	015600	000240			HLT			;BINARY CLEARED C
3660					SCOPE			
3661	015602	000277						
3662	015604	032727	000000	177777	SCC			
3663	015612	001401			BIT	#0,#-1		
3664	015614	000000			BEQ	+.4		
3665	015616	100001			HLT			
3666	015620	000000			BPL	+.4		
3667	015622	102001			HLT			
3668	015624	000000			BVC	+.4		
3669	015626	103401			HLT			;BINARY SET V
3670	015630	000000			BCS	+.4		
3671	015632	000240			HLT			;BINARY CLEARED C
3672					SCOPE			
3673	015634	000277						
3674	015636	032727	177777	177777	SCC			
3675	015644	001001			BIT	#-1,#-1		
3676	015646	000000			BNE	+.4		
3677	015650	100401			HLT			
					BMI	+.4		

3678	015652	000000		HLT		
3679	015654	102001		BVC	.+4	
3680	015656	000000		HLT		;BINARY SET V
3681	015660	103401		BCS	.+4	
3682	015662	000000		HLT		;BINARY CLEARED C
3683	015664	000240		SCOPE		
3684						
3685	015666	000277		SCC		
3686	015670	032727	177777 077777	BIT	#-1, #77777	
3687	015676	001001		BNE	.+4	
3688	015700	000000		HLT		
3689	015702	100001		BPL	.+4	
3690	015704	000000		HLT		
3691	015706	102001		BVC	.+4	
3692	015710	000000		HLT		;BINARY SET V
3693	015712	103401		BCS	.+4	
3694	015714	000000		HLT		;BINARY CLEARED C
3695	015716	000240		SCOPE		

3696							
3697	015720	000277			SCC		
3698	015722	032727	052525	125252	BIT	#52525, #125252	
3699	015730	001401			BEQ	.+4	
3700	015732	000000			HLT		
3701	015734	100001			BPL	.+4	
3702	015736	000000			HLT		
3703	015740	102001			BVC	.+4	
3704	015742	000000			HLT		;BINARY SET V
3705	015744	103401			BCS	.+4	
3706	015746	000000			HLT		;BINARY CLEARED C
3707	015750	000240			SCOPE		
3708							
3709	015752	000277			SCC		
3710	015754	132727	177777	177777	BITB	#-1, #-1	
3711	015762	001001			BNE	.+4	
3712	015764	000000			HLT		
3713	015766	100401			BMI	.+4	
3714	015770	000000			HLT		
3715	015772	102001			BVC	.+4	
3716	015774	000000			HLT		;BINARY SET V
3717	015776	103401			BCS	.+4	
3718	016000	000000			HLT		;BINARY CLEARED C
3719	016002	000240			SCOPE		
3720							
3721	016004	000277			SCC		
3722	016006	132727	177777	177400	BITB	#-1, #177400	
3723	016014	001401			BEQ	.+4	
3724	016016	000000			HLT		
3725	016020	100001			BPL	.+4	
3726	016022	000000			HLT		
3727	016024	102001			BVC	.+4	
3728	016026	000000			HLT		;BINARY SET V
3729	016030	103401			BCS	.+4	
3730	016032	000000			HLT		;BINARY CLEARED C
3731	016034	000240			SCOPE		
3732							
3733	016036	000277			SCC		
3734	016040	132727	077777	000377	BITB	#77777, #377	
3735	016046	001001			BNE	.+4	
3736	016050	000000			HLT		
3737	016052	100401			BMI	.+4	
3738	016054	000000			HLT		
3739	016056	102001			BVC	.+4	
3740	016060	000000			HLT		;BINARY SET V
3741	016062	103401			BCS	.+4	
3742	016064	000000			HLT		;BINARY CLEARED C
3743	016066	000240			SCOPE		
3744							
3745							;BIT SET INSTRUCTION
3746	016070	005067	001264		CLR	TEMP	
3747	016074	000277			SCC		
3748	016076	052767	000000	001254	BIS	#0, TEMP	
3749	016104	001401			BEQ	.+4	
3750	016106	000000			HLT		
3751	016110	100001			BPL	.+4	

3752	016112	000000			HLT		
3753	016114	102001			BVC	.+4	
3754	016116	000000			HLT		;BINARY SET V
3755	016120	103401			BCS	.+4	
3756	016122	000000			HLT		;BINARY CLEARED C
3757	016124	000240			SCOPE		
3758							
3759	016126	012767	177777	001224	MOV	#-1,TEMP	
3760	016134	000277			SCC		
3761	016136	052767	000000	001214	BIS	#0,TEMP	
3762	016144	001001			BNE	.+4	
3763	016146	000000			HLT		
3764	016150	100401			BMI	.+4	
3765	016152	000000			HLT		
3766	016154	102001			BVC	.+4	
3767	016156	000000			HLT		;BINARY SET V
3768	016160	103401			BCS	.+4	
3769	016162	000000			HLT		;BINARY CLEARED C
3770	016164	000240			SCOPE		

3771							
3772	016166	005067	001166		CLR	TEMP	
3773	016172	000277			SCC		
3774	016174	052767	177777 001156		BIS	#-1,TEMP	
3775	016202	001001			BNE	.+4	
3776	016204	000000			HLT		
3777	016206	100401			BMI	.+4	
3778	016210	000000			HLT		
3779	016212	102001			BVC	.+4	
3780	016214	000000			HLT		;BINARY SET V
3781	016216	103401			BCS	.+4	
3782	016220	000000			HLT		;BINARY CLEARED C
3783	016222	000240			SCOPE		
3784							
3785	016224	012767	177777 001126		MOV	#-1,TEMP	
3786	016232	000277			SCC		
3787	016234	052767	177777 001116		BIS	#-1,TEMP	
3788	016242	001001			BNE	.+4	
3789	016244	000000			HLT		
3790	016246	100401			BMI	.+4	
3791	016250	000000			HLT		
3792	016252	102001			BVC	.+4	
3793	016254	000000			HLT		;BINARY SET V
3794	016256	103401			BCS	.+4	
3795	016260	000000			HLT		;BINARY CLEARED C
3796	016262	000240			SCOPE		
3797							
3798	016264	005067	001070		CLR	TEMP	
3799	016270	000277			SCC		
3800	016272	052767	077777 001060		BIS	#77777,TEMP	
3801	016300	001001			BNE	.+4	
3802	016302	000000			HLT		
3803	016304	100001			BPL	.+4	
3804	016306	000000			HLT		
3805	016310	102001			BVC	.+4	
3806	016312	000000			HLT		;BINARY SET V
3807	016314	103401			BCS	.+4	
3808	016316	000000			HLT		;BINARY CLEARED C
3809	016320	000240			SCOPE		
3810							
3811	016322	005067	001032		CLR	TEMP	
3812	016326	000277			SCC		
3813	016330	152767	177577 001022		BISB	#177577,TEMP	
3814	016336	001001			BNE	.+4	
3815	016340	000000			HLT		
3816	016342	100001			BPL	.+4	
3817	016344	000000			HLT		
3818	016346	102001			BVC	.+4	
3819	016350	000000			HLT		;BINARY SET V
3820	016352	103401			BCS	.+4	
3821	016354	000000			HLT		;BINARY CLEARED C
3822	016356	000240			SCOPE		
3823	016360	005267	000022		INC	LOOP	
3824	016364	001006			BNE	FIN	

```

3825          :MAINT. OPER PACKAGE
3826          :HLT SHOULD EQUAL "EMT"
3827          :SCOPE SHOULD EQUAL "TRAP"
3828          177776 CC=177776
3829          :START OF PROGRAM SHOULD=BEGIN
3830          :BELL ON PASS COMPLETE
3831 016366 012737 000207 177566      MOV      #207, @#177566
3832 016374 105737 177564            TSTB    @#177564
3833 016400 100375                    BPL     .-4
3834 016402 000167 161572      FIN:    JMP     BEGIN
3835 016406 000000      LOOP:    D
3836          :ROUTINE TO CHECK FOR TRACE TRAP TO BE RUN WITH PROGRAM
3837 016410 032767 010000 161152  TRTRAP: BIT    #10000, SR      ; SHOULD WE RUN WITH TRACE TRAP
3838 016416 001417                    BEQ     YESTR      ; YES
3839 016420 005767 000100            TST     YESTR1    ; NO HAVE WE RAN WITH TRACE TRAP ON
3840 016424 001411                    BEQ     TRPA      ; IF SO RESTORE PREVIOUS CONTENTS
3841 016426 016767 000072 161360      MOV     YESTR1, 14
3842 016434 016767 000066 161354      MOV     YESTR2, 16
3843 016442 042767 000020 161326      BIC     #20, CC      ; CLEAR TRACE TRAP
3844 016450 000167 161524      TRPA:   JMP     BEGIN      ; START OF TEST WITH TRACE OFF
3845 016454 000000      TRPB:   D
3846
3847          :SAVE OLD CONTENTS SET UP FOR TRACE TRAP
3848 016456 016767 161332 000040  YESTR:  MOV     14, YESTR1      ; SAVE ODT PC
3849 016464 016767 161326 000034      MOV     16, YESTR2      ; SAVE ODT STATUS
3850 016472 012767 016530 161314      MOV     #YESTR, 14     ; NEW TRAP VECTOR
3851 016500 005067 161312            CLR     16              ; NEW CONDITION CC
3852 016504 005167 177744            COM     TRPB
3853 016510 100403                    BMI     .+10            ; ALTERNATE TIMES
3854 016512 052767 000020 161256      BIS     #20, CC      ; SET TRACE TRAP
3855 016520 000167 161454      JMP     BEGIN      ; START OF TEST WITH TRACE ON
3856
3857 016524 000000      YESTR1: D      ; STORAGE FOR ODT PC
3858 016526 000000      YESTR2: D      ; STORAGE FOR ODT STATUS
3859 016530 000002      YESRT:  RTI     ; RETURN TO PROGRAM FROM TRAP
3860 016532 000000            HALT      ; RTI FAILED
3861
3862          :ENTERED WITH SYSTEM TRAP CALL(HLT)
3863          :PRINT OUT THE ERROR PC AND STATUS REGISTER
3864 016534 036727 161030 020000  PRINT:  BIT    SR, #20000      ; TEST FOR INHIBIT PRINT OUT
3865 016542 001401                    BEQ     .+4              ; BRANCH TO PRINT
3866 016544 000002                    RTI     ; INHIBIT, RETURN TO MAIN STREAM
3867 016546 012667 000146      MOV     (6)+, SAVPC     ; PC OF FAILING ROUTINE
3868 016552 012667 000144      MOV     (6)+, SAVCC     ; CC OF ERROR CONDITION
3869 016556 024646      CMP     -(6), -(6)     ; REPOSITION THE STACK
3870 016560 012777 000215 000126      MOV     #215, @TDBR    ; CR
3871 016566 105777 000124      TSTB   @TCSR
3872 016572 100375                    BPL     .-4
3873 016574 012777 000212 000112      MOV     #212, @TDBR    ; LINE FEED
3874 016602 105777 000110      TSTB   @TCSR
3875 016606 100375                    BPL     .-4
3876 016610 010267 000072      MOV     %2, SAVR2      ; SAVE R2
3877 016614 010367 000070      MOV     %3, SAVR3      ; SAVE R3
3878 016620 010467 000066      MOV     %4, SAVR4      ; SAVE R4
3879 016624 016702 000070      MOV     SAVPC, %2
3880 016630 004767 000070      JSR     %7, PRTAB      ; PRINT OCTAL NUMBER
  
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3881	016634	012777	000240	000052	MOV	#240, @TOBR	
3882	016642	105777	000050		TSTB	@TCSR	;SPACE BETWEEN WORDS
3883	016646	100375			BPL	.-4	
3884	016650	016702	000046		MOV	SAVCC,%2	
3885	016654	004767	000044		JSR	%7, PRTAB	;PRINT OCTAL NUMBER
3886	016660	016702	000022		MOV	SAVR2,%2	;RESTORE REGISTERS
3887	016664	016703	000020		MOV	SAVR3,%3	
3888	016670	016704	000016		MOV	SAVR4,%4	
3889	016674	005767	160670		TST	SR	;TEST HALT SWITCH
3890	016700	100001			BPL	+.4	
3891	016702	000000			HALT		;HALT ON ERROR UP
3892	016704	000002			RTI		;RETURN TO MAIN STREAM

3893	016706	000000			SAVR2:	0			
3894	016710	000000			SAVR3:	0			
3895	016712	000000			SAVR4:	0			
3896	016714	177566			TDBR:	177566			;DATA
3897	016716	177564			TCSR:	177564			;STATUS
3898	016720	000000			SAVPC:	0			
3899	016722	000000			SAVCC:	0			
3900									
3901	016724	005067	000260		PRTAB:	CLR	BINCT		
3902	016730	005067	000252			CLR	WGTCT		
3903	016734	012704	017214			MOV	#LIST,%4		;GET LIST ADDRESS
3904	016740	142777	000177	177750		BICB	#177,@TCSR		;CLR INT FLAG
3905	016746	012767	000005	000236		MOV	#5,ASCNT		
3906	016754	012767	000007	000220		MOV	#7,SEVEN		
3907	016762	012767	000001	000214		MOV	#1,DECML		
3908	016770	105777	177722		WAIT1:	TSTB	@TCSR		
3909	016774	100375				BPL	WAIT1		
3910	016776	005702				TST	%2		
3911	017000	100404				BMI	MINUS		;NEG SIGN PRINT 1
3912	017002	012777	000260	177704		MOV	#260,@TDBR		;POS SIGN PRINT 0
3913	017010	000403				BR	START		
3914	017012	012777	000261	177674	MINUS:	MOV	#261,@TDBR		
3915	017020	016703	000156		START:	MOV	SEVEN,%3		;PUT MASK IN R3
3916	017024	010267	000150			MOV	%2,TOODLE		;GET READY TO DOODLE NUMBER IN TOODLE
3917	017030	005167	000144			COM	TOODLE		;COMPENSATES FOR COMPLEMENT DURING BIC
3918	017034	046703	000140			BIC	TOODLE,%3		;AND IN OCTAL CHARACTER
3919	017040	001410				BEQ	WRTOC		;ZERO, WRITE 0 IN LIST
3920	017042	066767	000136	000136	MKNUM:	ADD	DECML,WGTCT		;COUNT UP TO
3921	017050	005267	000134			INC	BINCT		;AND RECORD
3922	017054	026703	000126			CMP	WGTCT,%3		;SAME BINARY WEIGHT
3923	017060	001370				BNE	MKNUM		;KEEP COUNTN
3924	017062	062767	000260	000120	WRTOC:	ADD	#260,BINCT		;ADD ASCII PREFIX
3925	017070	016724	000114			MOV	BINCT,(4)+		;WRITE ASCII CHAR IN LIST
3926	017074	066767	000102	000102		ADD	SEVEN,DECML		;EXPAND BINARY WEIGHT
3927	017102	005067	000100			CLR	WGTCT		
3928	017106	005067	000076			CLR	BINCT		
3929	017112	005367	000074			DEC	ASCNT		
3930	017116	001410				BEQ	XLIST		;5 CHAR IN LIST
3931	017120	012703	000003			MOV	#3,%3		;SET X3 FOR ADD LOOP
3932	017124	066767	000052	000050	MOADD:	ADD	SEVEN,SEVEN		;MAKING SEVENTY BY SEVEN
3933	017132	005303				DEC	%3		
3934	017134	001373				BNE	MOADD		
3935	017136	000730				BR	START		;NX SEVEN SET GET NX OCTAL
3936	017140	012767	000005	000044	XLIST:	MOV	#5,ASCNT		;SEND 5 CHAR TO TTY
3937	017146	105777	177544		WAIT2:	TSTB	@TCSR		
3938	017152	100375				BPL	WAIT2		
3939	017154	014477	177534			MOV	-(4),@TDBR		
3940	017160	005367	000026			DEC	ASCNT		
3941	017164	001401				BEQ	HDFHM		;FINISH PRINTING GET NXT NUM
3942	017166	000767				BR	WAIT2		

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3943 017170 105777 177522      HCFHM:  TSTB  ATCSR
3944 017174 100375          BPL      -4
3945 017176 000207          RTS      :7      ;HEAD FOR HOME
3946 017200 000000      TOODLE:  0
3947 017202 000000      SEVEN:   0
3948 017204 000000      DECML:   0
3949 017206 000000      WGTCT:   0
3950 017210 000000      BINCT:   0
3951 017212 000000      ASCNT:   0
3952 017214 000000      LIST:    0
3953 017216 000000          0
3954 017220 000000          0
3955 017222 000000          0
3956 017224 000000          0
3957          ;SCOPE LOOP ROUTINE ENTERED BY USER TRAP
3958 017226 032767 040000 160334 SCOPEA:  BIT      #40000,SR
3959 017234 001003          BNE      SCOPEB      ;SCOPE, BIT IS A ONE
3960 017236 011667 000066          MOV      %2,%6,RETURN ;NO - SAVE PC FOR NEXT TIME
3961 017242 000002          RTI          ;RETURN IN SEQUENCE
3962 017244 022606          SCOPEB:  CMP      (6)+,%6 ;REPOSITION THE STACK
3963 017246 012667 160524          MOV      (6)+,CC
3964 017252 000177 000052          JMP      @RETURN      ;SCOPE RETURN
3965
3966          ;SCOPE OR/AND ITERATION LOOP FOR EACH TEST 4000 TIMES
3967 017256 032767 040000 160304 SCOPEC:  BIT      #40000,SR ;TEST SR FOR SCOPE
3968 017264 001367          BNE      SCOPEB      ;YES SCOPE
3969 017266 032767 004000 160274          BIT      #4000,SR ;NO - TEST FOR ITERATION
3970 017274 001007          BNE      SCOPEG      ;INHIBIT ITERATION
3971 017276 026727 000024 004000          CMP      SCOPEF, #4000
3972 017304 001403          BEQ      SCOPEG      ;EXIT - DONE
3973 017306 005267 000014          INC      SCOPEF      ;INCREMENT COUNT
3974 017312 000754          BR       SCOPEB      ;LOOP SOME MORE
3975 017314 005067 000006          SCOPEG:  CLR      SCOPEF ;CLEAR COUNT
3976 017320 011667 000004          MOV      %2,%6,RETURN ;SAVE SCOPE RETURN POINTER
3977 017324 000002          RTI          ;RETURN INLINE-NEXT TEST
3978 017326 000000          SCOPEF:  0 ;COUNT LOCATION FOR ITERATION LOOP
3979 017330 000200          RETURN:  BEGIN ;ADDRESS OF LAST TEST
3980 017332 000167 160642          JMP      200
3981          . = +20
3982 017356 000000          BUFF:   0
3983 017360 000000          TEMP:   0
3984          .END
  
```


2230	2236	2238	2240	2242	2245	2251	2259	2260	2267	2269	2276	2279
2281	2290	2292	2294	2300	2302	2304	2312	2314	2316	2318	2326	2328
2330	2332	2338	2340	2342	2344	2351	2353	2360	2362	2369	2371	2378
2381	2383	2392	2394	2396	2402	2404	2406	2414	2416	2418	2420	2428
2430	2432	2434	2440	2442	2444	2446	2453	2455	2462	2464	2471	2473
2480	2483	2485	2494	2496	2498	2504	2506	2508	2516	2518	2520	2522
2530	2532	2534	2536	2542	2544	2546	2548	2555	2557	2564	2566	2573
2575	2582	2585	2587	2596	2598	2600	2606	2608	2610	2618	2620	2622
2624	2633*	2640	2642	2644	2646	2652	2654	2656	2658	2664	2666	2668
2670	2676	2678	2680	2682	2690	2692	2694	2696	2704	2706	2708	2710
2718	2720	2722	2724	2732	2734	2736	2738	2746	2748	2750	2752	2760
2762	2764	2766	2777	2779	2781	2783	2790	2792	2794	2796	2803	2805
2807	2809	2816	2818	2820	2823	2830	2832	2834	2836	2843	2845	2847
2849	2856	2858	2860	2862	2868	2870	2872	2874	2880	2882	2884	2886
2892	2894	2896	2898	2904	2906	2908	2910	2916	2918	2920	2922	2928
2930	2932	2934	2940	2942	2944	2946	2952	2954	2956	2958	2965	2967
2969	2971	2978	2980	2982	2984	2991	2993	2995	2997	3004	3006	3008
3010	3017	3019	3021	3023	3030	3032	3034	3036	3043	3045	3047	3049
3055	3057	3059	3061	3067	3069	3071	3073	3079	3081	3083	3085	3091
3093	3095	3097	3103	3105	3107	3109	3115	3117	3119	3121	3127	3129
3131	3133	3135	3141	3143	3145	3153	3155	3157	3159	3166	3168	3170
3172	3179	3181	3183	3185	3192	3194	3196	3198	3205	3207	3209	3211
3218	3220	3222	3224	3237	3239	3241	3243	3249	3251	3253	3255	3261
3263	3265	3267	3273	3275	3277	3279	3287	3289	3291	3293	3301	3303
3305	3307	3315	3317	3319	3321	3329	3331	3333	3335	3343	3345	3347
3349	3357	3359	3361	3363	3374	3376	3378	3380	3387	3389	3391	3393
3400	3402	3404	3406	3413	3415	3417	3420	3427	3429	3431	3433	3440
3442	3444	3446	3453	3455	3457	3459	3465	3467	3469	3471	3477	3479
3481	3483	3489	3491	3493	3495	3501	3503	3505	3507	3513	3515	3517
3519	3525	3527	3529	3531	3537	3539	3541	3543	3549	3551	3553	3555
3562	3564	3566	3568	3575	3577	3579	3581	3588	3590	3592	3594	3601
3603	3605	3607	3614	3616	3618	3620	3627	3629	3631	3633	3640	3642
3644	3646	3652	3654	3656	3658	3664	3666	3668	3670	3676	3678	3680
3682	3688	3690	3692	3694	3700	3702	3704	3706	3712	3714	3716	3718
3724	3726	3728	3730	3736	3738	3740	3742	3750	3752	3754	3756	3763
3765	3767	3769	3776	3778	3780	3782	3789	3791	3793	3795	3802	3804
3806	3808	3815	3817	3819	3821							
3903	3952*											
3823*	3835*											
3911	3914*											
3920*	3923											
3932*	3934											
290	3864*											
3880	3885	3901*										
301*	3960*	3964	3976*	3979*								
3868*	3884	3899*										
3867*	3879	3898*										
3876*	3886	3893*										
3877*	3887	3894*										
3878*	3888	3895*										
297*	302	303	314	325	336	347	358	369	380	391	402	413
424	435	446	457	468	479	490	501	512	523	534	545	556
567	578	589	600	611	623	634	645	656	667	678	689	700
711	722	733	744	755	766	777	788	799	810	821	832	843
857	870	882	895	907	920	932	945	957	970	985	997	1007
1019	1031	1041	1053	1065	1075	1087	1099	1109	1121	1133	1143	1158

LIST 017214
 LOOP 016406
 MINUS 017012
 MKNUM 017042
 MOADD 017124
 PRINT 016524
 PRTAB 016724
 RETURN 017330
 SAVCC 016722
 SAVPC 016720
 SAVR2 016706
 SAVR3 016710
 SAVR4 016712
 SCOPE = 000240

		1171	1183	1195	1208	1221	1233	1246	1259	1271	1286	1299	1316	
		1328	1340	1353	1367	1379	1391	1404	1418	1420	1440	1453	1469	
		1493	1506	1520	1532	1547	1559	1571	1582	1591	1603	1615	1631	
		1647	1659	1671	1679	1691	1703	1715	1723	1735	1747	1759	1795	
		1808	1820	1843	1856	1868	1891	1904	1916	1939	1952	1964	2000	
		2015	2027	2049	2048	2057	2066	2078	2091	2101	2115	2117	2141	
		2150	2159	2168	2180	2193	2203	2217	2219	2231	2243	2252	2129	
		2282	2295	2305	2319	2321	2333	2345	2354	2363	2372	2384	2261	
		2421	2433	2443	2447	2456	2465	2474	2486	2499	2509	2523	2397	
		2549	2558	2567	2576	2588	2601	2611	2625	2632	2647	2659	2525	
		2697	2711	2725	2739	2753	2767	2784	2797	2810	2824	2837	2671	
		2875	2887	2899	2911	2923	2935	2947	2959	2972	2985	2998	2850	
		3037	3050	3062	3074	3086	3098	3110	3122	3134	3146	3160	3011	
		3199	3212	3225	3244	3256	3268	3280	3294	3308	3322	3336	3173	
		3381	3394	3407	3421	3434	3447	3460	3472	3484	3496	3508	3350	
		3544	3556	3569	3582	3595	3608	3621	3634	3647	3659	3671	3520	
		3707	3719	3731	3743	3757	3770	3783	3796	3809	3822		3683	
		3958												
SCOPEA	017226	3959	3962	3968	3974									
SCOPEB	017244	3971	3973											
SCOPEC	017256	3970	3972	3975	3978									
SCOPEF	017326	3971	3973	3975										
SCOPEG	017314	3970	3972	3975										
SCOPEH	017302	3906	3915	3926	3932	3947								
SCOPEI	177570	288	2837	2864	2889	3959	3967	3969						
SCOPEJ	017020	3913	3915	3935										
SCOPEK	016716	3871	3874	3882	3897	3904	3908	3937	3943					
SCOPEL	016714	2870	2873	2881	2896	3912	3914	3939						
SCOPEM	017360	2686	2688	2700	2702	2714	2716	2728	2730	2742	2744	2756	2758	2773
		2775	2786	2788	2799	2801	2812	2814	2826	2828	2839	2841	2852	2854
		2961	2963	2974	2976	2987	2989	3000	3002	3013	3015	3026	3028	3149
		3151	3162	3164	3175	3177	3188	3190	3201	3203	3214	3216	3283	3285
		3297	3299	3311	3313	3325	3327	3339	3341	3353	3355	3370	3372	3383
		3385	3396	3398	3409	3411	3423	3425	3436	3438	3449	3451	3558	3560
		3571	3573	3584	3586	3597	3599	3610	3612	3623	3625	3746	3748	3759
		3761	3772	3774	3785	3787	3798	3800	3811	3813	3983			
		3916	3917	3918	3946									
TOODLE	017200	3840	3844											
TRPA	016450	3845	3852											
TRPB	016454	3837												
TRTRAP	016410	3908	3909											
WAT1	016770	3937	3938	3942										
WAT2	017146	3902	3920	3922	3927	3949								
WGTCT	017206	3919	3924											
WATOC	017062	3930	3936											
XLIST	017140	2634	2638	2650	2662	2674	3231	3235	3247	3259	3271			
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YESAT	016530	3838	3848											
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.MAIN. MACY11 27(732) 01-OCT-75 09:53 PAGE 104
DODA.P11 CROSS REFERENCE TABLE -- PERMANENT SYMBOLS

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DEFAULT GLOBALS GENERATED: 0

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RUN-TIME RATIO: 185/78=2.3
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