

TEST

TEST 2 BRANCH
MD-11-DOB-A

EP-DOB-A-DL-A
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FICHE 1 OF 1

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1. ABSTRACT

THIS IS A GROUP OF 12 TESTS THAT INCREMENTALLY TEST AND ISOLATE SIMPLE MALFUNCTIONS OF THE PDP 11. THE TESTS SHOULD BE RUN IN THE INDICATED NUMERICAL SEQUENCE. THE SEQUENCE IS 1. BRANCH 2. CONDITIONAL BRANCH 3. UNARY 4. UNARY AND BINARYS 5. ROTATE/SHIFT 6. COMPARE (EQUALITY) 7. COMPARE (NON EQUALITY) 8. MOVE 9. BIT SET, CLEAR AND TEST 10. ADD 11. SUBTRACT 12. JUMP

THERE IS A SECOND GROUP OF TESTS FOR MORE COMPLEX MALFUNCTIONS.

2. REQUIREMENTS

2.1 EQUIPMENT

PDP-11/20 STANDARD COMPUTER

2.2 STORAGE

2.2.1 PROGRAM STORAGE - THE PROGRAMS USE ALL OF A 4KW MEMORY WITH THE EXCEPTION OF 17500 TO 17776 (WHICH IS RESERVED FOR THE BOOT AND ABSOLUTE LOADER).

3. LOADING PROCEDURE

3.1 METHOD

PROCEDURE FOR NORMAL ABSOLUTE TAPES SHOULD BE FOLLOWED.

4. STARTING PROCEDURE

4.1 CONTROL SWITCH SETTING

ALL PROGRAMS START AT ADDRESS 200.

4.2 STARTING ADDRESS OR ADDRESSES

(A) 200 = START AND RESTART ADDRESS

4.3 PROGRAM AND/OR OPERATOR ACTION

LOAD PROGRAM INTO MEMORY. (BOTTOM 4K)
SET SWITCH REGISTER TO STARTING ADDRESS. (200)
LOAD ADDRESS.
PRESS START.
THE PROGRAM WILL LOOP, AND RING A BELL AFTER A FIXED NUMBER OF ITERATIONS.

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E01

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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.

J01

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308	000152	000000	HALT	; TRAPPED TO PREVIOUS ADDRESS
309	000154	000156	.+2	
310	000156	000000	HALT	; TRAPPED TO PREVIOUS ADDRESS
311	000160	000162	.+2	
312	000162	000000	HALT	; TRAPPED TO PREVIOUS ADDRESS
313	000164	000166	.+2	
314	000166	000000	HALT	; TRAPPED TO PREVIOUS ADDRESS
315	000170	000172	.+2	
316	000172	000000	HALT	; TRAPPED TO PREVIOUS ADDRESS
317	000174	000176	.+2	
318	000176	000000	HALT	; TRAPPED TO PREVIOUS ADDRESS
319		000240		
320		000000		
321		000240		
322		177570		
323		000200		
324				

NOP=000240
HLT=0
SCOPE=NOP
SR=177570
. =200

; START OF PROGRAM

K01

325					
326					;N=0, Z=0, V=0, C=0
327	000200	000257		CCC	;CLEAR CONDITION CODES
328					
329	000202	103401		BCS	.+4
330	000204	000401		BR	.+4
331	000206	000000		HLT	;C WAS NOT CLEAR
332	000210	000240		SCOPE	
333					
334	000212	103001		BCC	.+4
335	000214	000000		HLT	;C SHOULD NOT HAVE BRANCHED
336	000216	000240		SCOPE	
337					
338	000220	102401		BVS	.+4
339	000222	000401		BR	.+4
340	000224	000000		HLT	;V WAS NOT CLEAR
341	000226	000240		SCOPE	
342					
343	000230	102001		BVC	.+4
344	000232	000000		HLT	;V SHOULD NOT HAVE BRANCHED
345	000234	000240		SCOPE	
346					
347	000236	001401		BEG	.+4
348	000240	000401		BR	.+4
349	000242	000000		HLT	;Z WAS NOT CLEAR
350	000244	000240		SCOPE	
351					
352	000246	001001		BNE	.+4
353	000250	000000		HLT	;Z SHOULD NOT HAVE BRANCHED
354	000252	000240		SCOPE	
355					
356	000254	100401		BMI	.+4
357	000256	000401		BR	.+4
358	000260	000000		HLT	;N WAS NOT CLEAR
359	000262	000240		SCOPE	
360					
361	000264	100001		BPL	.+4
362	000266	000000		HLT	;N SHOULD NOT HAVE BRANCHED
363	000270	000240		SCOPE	
364					
365					;N=0, Z=0, V=0, C=1
366	000272	000261		SEC	;SET "C"
367					
368	000274	103401		BCS	.+4
369	000276	000000		HLT	;C WAS NOT SET
370	000300	000240		SCOPE	
371					
372	000302	103001		BCC	.+4
373	000304	000401		BR	.+4
374	000306	000000		HLT	;C SHOULD NOT HAVE BRANCHED
375	000310	000240		SCOPE	
376					
377					
378	000312	102401		BVS	.+4
379	000314	000401		BR	.+4
380	000316	000000		HLT	;V WAS NOT CLEAR

381	000320	000240	SCOPE		
382					
383	000322	102001	BVC	.+4	
384	000324	000000	HLT		;V SHOULD NOT HAVE BRANCHED
385	000326	000240	SCOPE		
386					
387	000330	001401	BEQ	.+4	
388	000332	000401	BR	.+4	
389	000334	000000	HLT		;Z WAS NOT CLEAR
390	000336	000240	SCOPE		
391					
392	000340	001001	SNE	.+4	
393	000342	000000	HLT		;Z SHOULD NOT HAVE BRANCHED
394	000344	000240	SCOPE		
395					
396	000346	100401	BMI	.+4	
397	000350	000401	BR	.+4	
398	000352	000000	HLT		;N WAS NOT CLEAR
399	000354	000240	SCOPE		
400					
401	000356	100001	BPL	.+4	
402	000360	000000	HLT		;N SHOULD NOT HAVE BRANCHED
403	000362	000240	SCOPE		
404					
405					;N=0, Z=0, V=1, C=0
406	000364	000241	CLC		;CLEAR "C"
407	000366	000262	SEV		;SET "V"
408					
409	000370	103401	BCS	.+4	
410	000372	000401	BR	.+4	
411	000374	000000	HLT		;C WAS NOT CLEAR
412	000376	000240	SCOPE		
413					
414	000400	103001	BCC	.+4	
415	000402	000000	HLT		;C SHOULD NOT HAVE BRANCHED
416	000404	000240	SCOPE		
417					
418	000406	102401	BVS	.+4	
419	000410	000000	HLT		;V WAS NOT SET
420	000412	000240	SCOPE		
421					
422	000414	102001	BVC	.+4	
423	000416	000401	BR	.+4	
424	000420	000000	HLT		;V SHOULD NOT HAVE BRANCHED
425	000422	000240	SCOPE		
426					
427					
428	000424	001401	BEQ	.+4	
429	000426	000401	BR	.+4	
430	000430	000000	HLT		;Z WAS NOT CLEAR
431	000432	000240	SCOPE		
432					
433	000434	001001	BNE	.+4	
434	000436	000000	HLT		;Z SHOULD NOT HAVE BRANCHED
435	000440	000240	SCOPE		
436					

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437	000442	100401	BMI	.+4	
438	000444	000401	BR	.+4	
439	000446	000000	HLT		;N WAS NOT CLEAR
440	000450	000240	SCOPE		
441					
442	000452	100001	BPL	.+4	
443	000454	000000	HLT		;N SHOULD NOT HAVE BRANCHED
444	000456	000240	SCOPE		
445					
446					;N=0, Z=0, V=1, C=1
447	000460	000263	+SEV!SEC		;SET "V" AND "C"
448					
449	000462	103401	SCS	.+4	
450	000464	000000	HLT		;C WAS NOT SET
451	000466	000240	SCOPE		
452					
453	000470	103001	BCC	.+4	
454	000472	000401	BR	.+4	
455	000474	000000	HLT		;C SHOULD NOT HAVE BRANCHED
456	000476	000240	SCOPE		
457					
458					
459	000500	102401	BVS	.+4	
460	000502	000000	HLT		;V WAS NOT SET
461	000504	000240	SCOPE		
462					
463	000506	102001	BVC	.+4	
464	000510	000401	BR	.+4	
465	000512	000000	HLT		;V SHOULD NOT HAVE BRANCHED
466	000514	000240	SCOPE		
467					
468					
469	000516	001401	BEG	.+4	
470	000520	000401	BR	.+4	
471	000522	000000	HLT		;Z WAS NOT CLEAR
472	000524	000240	SCOPE		
473					
474	000526	001001	BNE	.+4	
475	000530	000000	HLT		;Z SHOULD NOT HAVE BRANCHED
476	000532	000240	SCOPE		
477					
478	000534	100401	BMI	.+4	
479	000536	000401	BR	.+4	
480	000540	000000	HLT		;N WAS NOT CLEAR
481	000542	000240	SCOPE		
482					
483	000544	100001	BPL	.+4	
484	000546	000000	HLT		;N SHOULD NOT HAVE BRANCHED
485	000550	000240	SCOPE		
486					
487					;N=0, Z=1, V=0, C=0
488	000552	000257	CCC		;CLEAR CONDITION CODES
489	000554	000264	SEZ		;SET Z
490					
491	000556	103401	BCS	.+4	
492	000560	000401	BR	.+4	

492	000562	000000	HLT		;C WAS NOT CLEAR
493	000564	000240	SCOPE		
495	000566	103001	BCC	.+4	
497	000570	000000	HLT		;C SHOULD NOT HAVE BRANCHED
498	000572	000240	SCOPE		
500	000574	102401	BVS	.+4	
501	000576	000401	BR	.+4	
502	000600	000000	HLT		;V WAS NOT CLEAR
503	000602	000240	SCOPE		
505	000604	102001	SVC	.+4	
506	000606	000000	HLT		;V SHOULD NOT HAVE BRANCHED
507	000610	000240	SCOPE		
509	000612	001401	BEQ	.+4	
510	000614	000000	HLT		;Z WAS NOT SET
511	000616	000240	SCOPE		
513	000620	001001	BNE	.+4	
514	000622	000401	BR	.+4	
515	000624	000000	HLT		;Z SHOULD NOT HAVE BRANCHED
516	000626	000240	SCOPE		
518					
520	000630	100401	BMI	.+4	
521	000632	000401	BR	.+4	
522	000634	000000	HLT		;N WAS NOT CLEAR
523	000636	000240	SCOPE		
524	000640	100001	BPL	.+4	
525	000642	000000	HLT		;N SHOULD NOT HAVE BRANCHED
526	000644	000240	SCOPE		
528					
529	000646	000257	CCC		;N=0, Z=1, V=0, C=1
530	000650	000265	+SEC!SEZ		;CLEAR ;SET "C" AND Z
531					
532	000652	103401	BCS	.+4	
533	000654	000000	HLT		;C WAS NOT SET
534	000656	000240	SCOPE		
535					
536	000660	103001	BCC	.+4	
537	000662	000401	BR	.+4	
538	000664	000000	HLT		;C SHOULD NOT HAVE BRANCHED
539	000666	000240	SCOPE		
540					
542	000670	102401	BVS	.+4	
543	000672	000401	BR	.+4	
544	000674	000000	HLT		;V WAS NOT CLEAR
545	000676	000240	SCOPE		
547					
548	000700	102001	BVC	.+4	
549	000702	000000	HLT		;V SHOULD NOT HAVE BRANCHED

000704	000240	SCOPE		
000706	001401	BEQ	.+4	
000710	000000	HLT		;Z WAS NOT SET
000712	000240	SCOPE		
000714	001001	BNE	.+4	
000716	000401	BR	.+4	
000720	000000	HLT		;Z SHOULD NOT HAVE BRANCHED
000722	000240	SCOPE		
000724	100401	BMI	.+4	
000726	000401	BR	.+4	
000730	000000	HLT		;N WAS NOT CLEAR
000732	000240	SCOPE		
000734	100001	BPL	.+4	
000736	000000	HLT		;N SHOULD NOT HAVE BRANCHED
000740	000240	SCOPE		
		:N=0, Z=1, V=1, C=0		
000742	000257	CCC		;CLEAR CODES
000744	000266	+SEZ!SEV		;SET Z AND V
000746	103401	BCS	.+4	
000750	000401	BR	.+4	
000752	000000	HLT		;C WAS NOT CLEAR
000754	000240	SCOPE		
000756	103001	BCC	.+4	
000760	000000	HLT		;C SHOULD NOT HAVE BRANCHED
000762	000240	SCOPE		
000764	102401	BVS	.+4	
000766	000000	HLT		;V WAS NOT SET
000770	000240	SCOPE		
000772	102001	BVC	.+4	
000774	000401	BR	.+4	
000776	000000	HLT		;V SHOULD NOT HAVE BRANCHED
001000	000240	SCOPE		
001002	001401	BEQ	.+4	
001004	000000	HLT		;Z WAS NOT SET
001006	000240	SCOPE		
001010	001001	BNE	.+4	
001012	000401	BR	.+4	
001014	000000	HLT		;Z SHOULD NOT HAVE BRANCHED
001016	000240	SCOPE		

602					
603	001020	100401	BMI	.+4	
604	001022	000401	BR	.+4	
605	001024	000000	HLT		;N WAS NOT CLEAR
606	001026	000240	SCOPE		
607					
608	001030	100001	BPL	.+4	
609	001032	000000	HLT		;N SHOULD NOT HAVE BRANCHED
610	001034	000240	SCOPE		
611					
612	001036	000257	CCC		;CLEAR CODES
613	001040	000267	+SEZ!SEV!SEC		;SET Z, V AND C
614					
615	001042	103401	BOS	.+4	
616	001044	000000	HLT		;C WAS NOT SET
617	001046	000240	SCOPE		
618					
619	001050	103001	BCC	.+4	
620	001052	000401	BR	.+4	
621	001054	000000	HLT		;C SHOULD NOT HAVE BRANCHED
622	001056	000240	SCOPE		
623					
624					
625	001060	102401	BVS	.+4	
626	001062	000000	HLT		;V WAS NOT SET
627	001064	000240	SCOPE		
628					
629	001066	102001	BVC	.+4	
630	001070	000401	BR	.+4	
631	001072	000000	HLT		;V SHOULD NOT HAVE BRANCHED
632	001074	000240	SCOPE		
633					
634					
635	001076	001401	BEQ	.+4	
636	001100	000000	HLT		;Z WAS NOT SET
637	001102	000240	SCOPE		
638					
639	001104	001001	BNE	.+4	
640	001106	000401	BR	.+4	
641	001110	000000	HLT		;Z SHOULD NOT HAVE BRANCHED
642	001112	000240	SCOPE		
643					
644					
645	001114	100401	BMI	.+4	
646	001116	000401	BR	.+4	
647	001120	000000	HLT		;N WAS NOT CLEAR
648	001122	000240	SCOPE		
649					
650	001124	100001	BPL	.+4	
651	001126	000000	HLT		;N SHOULD NOT HAVE BRANCHED
652	001130	000240	SCOPE		
653					
654					
655	001132	000257	CCC		;CLEAR CODES
656	001134	000270	SEN		;SET N
657					

;N=0, Z=1, V=1, C=1

;N=1, Z=0, V=0, C=0

658	001136	103401	BUS	.+4	
659	001140	000401	BR	.+4	
660	001142	000000	HLT		:C WAS NOT CLEAR
661	001144	000240	SCOPE		
662					
663	001146	103001	BCC	.+4	
664	001150	000000	HLT		:C SHOULD NOT HAVE BRANCHED
665	001152	000240	SCOPE		
666					
667	001154	102401	BVS	.+4	
668	001156	000401	BR	.+4	
669	001160	000000	HLT		:V WAS NOT CLEAR
670	001162	000240	SCOPE		
671					
672	001164	102001	BVC	.+4	
673	001166	000000	HLT		:V SHOULD NOT HAVE BRANCHED
674	001170	000240	SCOPE		
675					
676	001172	001401	BEQ	.+4	
677	001174	000401	BR	.+4	
678	001176	000000	HLT		:Z WAS NOT CLEAR
679	001200	000240	SCOPE		
680					
681	001202	001001	BNE	.+4	
682	001204	000000	HLT		:Z SHOULD NOT HAVE BRANCHED
683	001206	000240	SCOPE		
684					
685	001210	100401	BMI	.+4	
686	001212	000000	HLT		:N WAS NOT SET
687	001214	000240	SCOPE		
688					
689	001216	100001	BPL	.+4	
690	001220	000401	BR	.+4	
691	001222	000000	HLT		:N SHOULD NOT HAVE BRANCHED
692	001224	000240	SCOPE		
693					
694					
695					
696	001226	000257	CCC		:N=1, Z=0, V=0, C=1
697	001230	000271	+SEN!SEC		
698					
699	001232	103401	BCS	.+4	
700	001234	000000	HLT		:C WAS NOT SET
701	001236	000240	SCOPE		
702					
703	001240	103001	BCC	.+4	
704	001242	000401	BR	.+4	
705	001244	000000	HLT		:C SHOULD NOT HAVE BRANCHED
706	001246	000240	SCOPE		
707					
708					
709	001250	102401	BVS	.+4	
710	001252	000401	BR	.+4	
711	001254	000000	HLT		:V WAS NOT CLEAR
712	001256	000240	SCOPE		
713					

714	001260	102001	BVC	.+4	
715	001262	000000	HLT		;V SHOULD NOT HAVE BRANCHED
716	001264	000240	SCOPE		
717					
718	001266	001401	BEQ	.+4	
719	001270	000401	BR	.+4	
720	001272	000000	HLT		;Z WAS NOT CLEAR
721	001274	000240	SCOPE		
722					
723	001276	001001	BNE	.+4	
724	001300	000000	HLT		;Z SHOULD NOT HAVE BRANCHED
725	001302	000240	SCOPE		
726					
727	001304	100401	BMI	.+4	
728	001306	000000	HLT		;N WAS NOT SET
729	001310	000240	SCOPE		
730					
731	001312	100001	BPL	.+4	
732	001314	000401	BR	.+4	
733	001316	000000	HLT		;N SHOULD NOT HAVE BRANCHED
734	001320	000240	SCOPE		
735					
736					
737					;N=1, Z=0, V=1, C=0
738	001322	000257	CCC		
739	001324	000272	+SEV:SEN		
740					
741	001326	103401	BCS	.+4	
742	001330	000401	BR	.+4	
743	001332	000000	HLT		;C WAS NOT CLEAR
744	001334	000240	SCOPE		
745					
746	001336	103001	BCC	.+4	
747	001340	000000	HLT		;C SHOULD NOT HAVE BRANCHED
748	001342	000240	SCOPE		
749					
750	001344	102401	BVS	.+4	
751	001346	000000	HLT		;V WAS NOT SET
752	001350	000240	SCOPE		
753					
754	001352	102001	BVC	.+4	
755	001354	000401	BR	.+4	
756	001356	000000	HLT		;V SHOULD NOT HAVE BRANCHED
757	001360	000240	SCOPE		
758					
759					
760	001362	001401	BEQ	.+4	
761	001364	000401	BR	.+4	
762	001366	000000	HLT		;Z WAS NOT CLEAR
763	001370	000240	SCOPE		
764					
765	001372	001001	BNE	.+4	
766	001374	000000	HLT		;Z SHOULD NOT HAVE BRANCHED
767	001376	000240	SCOPE		
768					
769	001400	100401	BMI	.+4	

770	001402	000000	HLT		;N WAS NOT SET
771	001404	000240	SCOPE		
772					
773	001406	100001	BPL	.+4	
774	001410	000401	BR	.+4	
775	001412	000000	HLT		;N SHOULD NOT HAVE BRANCHED
776	001414	000240	SCOPE		
777					
778					
779					
780	001416	000277	SCC		;SET CODES
781	001420	000244	CLZ		;CLEAR Z
782					
783	001422	103401	BCS	.+4	
784	001424	000000	HLT		;C WAS NOT SET
785	001426	000240	SCOPE		
786					
787	001430	103001	BCC	.+4	
788	001432	000401	BR	.+4	
789	001434	000000	HLT		;C SHOULD NOT HAVE BRANCHED
790	001436	000240	SCOPE		
791					
792					
793	001440	102401	BVS	.+4	
794	001442	000000	HLT		;V WAS NOT SET
795	001444	000240	SCOPE		
796					
797	001446	102001	BVC	.+4	
798	001450	000401	BR	.+4	
799	001452	000000	HLT		;V SHOULD NOT HAVE BRANCHED
800	001454	000240	SCOPE		
801					
802					
803	001456	001401	BEG	.+4	
804	001460	000401	BR	.+4	
805	001462	000000	HLT		;Z WAS NOT CLEAR
806	001464	000240	SCOPE		
807					
808	001466	001001	BNE	.+4	
809	001470	000000	HLT		;Z SHOULD NOT HAVE BRANCHED
810	001472	000240	SCOPE		
811					
812	001474	100401	BMI	.+4	
813	001476	000000	HLT		;N WAS NOT SET
814	001500	000240	SCOPE		
815					
816	001502	100001	BPL	.+4	
817	001504	000401	BR	.+4	
818	001506	000000	HLT		;N SHOULD NOT HAVE BRANCHED
819	001510	000240	SCOPE		
820					
821					
822					
823	001512	000277	SCC		;SET CODES
824	001514	000243	+CLV!CLC		;CLEAR V AND C
825					

;N=1, Z=0, V=1, C=1

;N=1, Z=1, V=0, C=0

826	001516	103401	BCS	.+4	
827	001520	000401	BR	.+4	
828	001522	000000	HLT		;C WAS NOT CLEAR
829	001524	000240	SCOPE		
830					
831	001526	103001	BCC	.+4	
832	001530	000000	HLT		;C SHOULD NOT HAVE BRANCHED
833	001532	000240	SCOPE		
834					
835	001534	102401	BVS	.+4	
836	001536	000401	BR	.+4	
837	001540	000000	HLT		;V WAS NOT CLEAR
838	001542	000240	SCOPE		
839					
840	001544	102001	BVC	.+4	
841	001546	000000	HLT		;V SHOULD NOT HAVE BRANCHED
842	001550	000240	SCOPE		
843					
844	001552	001401	BEG	.+4	
845	001554	000000	HLT		;Z WAS NOT SET
846	001556	000240	SCOPE		
847					
848	001560	001001	BNE	.+4	
849	001562	000401	BR	.+4	
850	001564	000000	HLT		;Z SHOULD NOT HAVE BRANCHED
851	001566	000240	SCOPE		
852					
853					
854	001570	100401	BMI	.+4	
855	001572	000000	HLT		;N WAS NOT SET
856	001574	000240	SCOPE		
857					
858	001576	100001	BPL	.+4	
859	001600	000401	BR	.+4	
860	001602	000000	HLT		;N SHOULD NOT HAVE BRANCHED
861	001604	000240	SCOPE		
862					

```

863                                     ;N=1, Z=1, V=0, C=1
864 001606 000277                       SCC           ;SET CODES
865 001610 000242                       CLV           ;CLEAR V
866
867 001612 103401                       BCS          .+4
868 001614 000000                       HLT
869 00161E 000240                       SCOPE
870
871 001620 103001                       BCC          .+4
872 001622 000401                       BR           .+4
873 001624 000000                       HLT
874 001626 000240                       SCOPE
875
876
877 001630 102401                       BVS          .+4
878 001632 000401                       BR           .+4
879 001634 000000                       HLT
880 001636 000240                       SCOPE
881
882 001640 102001                       BVC          .+4
883 001642 000000                       HLT
884 001644 000240                       SCOPE
885
886 001646 001401                       BEQ          .+4
887 001650 000000                       HLT
888 001652 000240                       SCOPE
889
890 001654 001001                       BNE          .+4
891 001656 000401                       BR           .+4
892 001660 000000                       HLT
893 001662 000240                       SCOPE
894
895
896 001664 100401                       BMI          .+4
897 001666 000000                       HLT
898 001670 000240                       SCOPE
899
900 001672 100001                       BPL          .+4
901 001674 000401                       BR           .+4
902 001676 000000                       HLT
903 001700 000240                       SCOPE
904
905
906                                     ;N=1, Z=1, V=1, C=0
907 001702 000277                       SCC           ;SET CODES
908 001704 000241                       CLC           ;CLEAR "C"
909
910 001706 103401                       BCS          .+4
911 001710 000401                       BR           .+4
912 001712 000000                       HLT
913 001714 000240                       SCOPE
914
915 001716 103001                       BCC          .+4
916 001720 000000                       HLT
917 001722 000240                       SCOPE
918
  
```

919	001724	:02401	BVS	.+4	
920	001726	000000	HLT		;V WAS NOT SET
921	001730	000240	SCOPE		
922					
923	001732	102001	BVC	.+4	
924	001734	000401	BR	.+4	
925	001736	000000	HLT		;V SHOULD NOT HAVE BRANCHED
926	001740	000240	SCOPE		
927					
928					
929	001742	001401	BEQ	.+4	
930	001744	000000	HLT		;Z WAS NOT SET
931	001746	000240	SCOPE		
932					
933	001750	001001	BNE	.+4	
934	001752	000401	BR	.+4	
935	001754	000000	HLT		;Z SHOULD NOT HAVE BRANCHED
936	001756	000240	SCOPE		
937					
938					
939	001760	100401	BMI	.+4	
940	001762	000000	HLT		;N WAS NOT SET
941	001764	000240	SCOPE		
942					
943	001766	100001	BPL	.+4	
944	001770	000401	BR	.+4	
945	001772	000000	HLT		;N SHOULD NOT HAVE BRANCHED
946	001774	000240	SCOPE		
947					
948					
949					
950	001776	000277	SCC		;N=1, Z=1, V=1, C=1
951					
952	002000	103401	BCS	.+4	
953	002002	000000	HLT		;C WAS NOT SET
954	002004	000240	SCOPE		
955					
956	002006	103001	BCC	.+4	
957	002010	000401	BR	.+4	
958	002012	000000	HLT		;C SHOULD NOT HAVE BRANCHED
959	002014	000240	SCOPE		
960					
961					
962	002016	102401	BVS	.+4	
963	002020	000000	HLT		;V WAS NOT SET
964	002022	000240	SCOPE		
965					
966	002024	102001	BVC	.+4	
967	002026	000401	BR	.+4	
968	002030	000000	HLT		;V SHOULD NOT HAVE BRANCHED
969	002032	000240	SCOPE		
970					
971					
972	002034	001401	BEQ	.+4	
973	002036	000000	HLT		;Z WAS NOT SET
974	002040	000240	SCOPE		

975
976 002042 001001
977 002044 000401
978 002045 000000
979 002050 000240
980
981 002052

BNE .+4
BR .+4
HLT
SCOPE

;Z SHOULD NOT HAVE BRANCHED

NEXT:

982
983 002052 100401
984 002054 000000
985 002056 000240
986
987 002060 100001
988 002062 000401
989 002064 000000
990 002066 000240
991

BMI .+4
HLT
SCOPE

;N WAS NOT SET

BPL .+4
SR .+4
HLT
SCOPE

;N SHOULD NOT HAVE BRANCHED

992
993
994
995
996

:FOR CASE 0 AND 12
:FOR CASE 1 AND 13
:FOR CASE 2 AND 10
:FOR CASE 3 AND 11
:FOR CASE 4

997
998
999
1000

:FOR CASE 6 AND 14
:FOR CASE 7 AND 15
:FOR CASE 16
:CASE 17

```

1001
1002          ;START OF TEST
1003          SCOPE
1004 002070 000240          CCC          ;0
1005 002072 000257
1006 002074 001001          BNE          .+4          ;BNE SHOULD BRANCH
1007 002076 000000          HLT          ;BNE BRANCH FAILED
1008 002100 000240          SCOPE
1009
1010 002102 001401          BEQ          .+4          ;BEQ SHOULD NOT BRANCH
1011 002104 000401          BR          .+4
1012 002106 000000          HLT          ;BEQ BRANCH FAILED
1013 002110 000240          SCOPE
1014
1015
1016 002112 002001          BGE          .+4          ;BGE SHOULD BRANCH
1017 002114 000000          HLT          ;BGE BRANCH FAILED
1018 002116 000240          SCOPE
1019
1020 002120 002401          BLT          .+4          ;BLT SHOULD NOT BRANCH
1021 002122 000401          BR          .+4
1022 002124 000000          HLT          ;BLT BRANCH FAILED
1023 002126 000240          SCOPE
1024
1025
1026 002130 003001          BGT          .+4          ;BGT SHOULD BRANCH
1027 002132 000000          HLT          ;BGT BRANCH FAILED
1028 002134 000240          SCOPE
1029
1030 002136 003401          BLE          .+4          ;BLE SHOULD NOT BRANCH
1031 002140 000401          BR          .+4
1032 002142 000000          HLT          ;BLE BRANCH FAILED
1033 002144 000240          SCOPE
1034
1035
1036 002146 103001          BHIS          .+4          ;BHIS SHOULD BRANCH
1037 002150 000000          HLT          ;BHIS BRANCH FAILED
1038 002152 000240          SCOPE
1039
1040 002154 103401          BLO          .+4          ;BLO SHOULD NOT BRANCH
1041 002156 000401          BR          .+4
1042 002160 000000          HLT          ;BLO BRANCH FAILED
1043 002162 000240          SCOPE
1044
1045
1046 002164 1010J1          BHI          .+4          ;BHI SHOULD BRANCH
1047 002166 000000          HLT          ;BHI BRANCH FAILED
1048 002170 000240          SCOPE
1049
1050 002172 101401          BLOS          .+4          ;BLOS SHOULD NOT BRANCH
1051 002174 000401          BR          .+4
1052 002176 000000          HLT          ;BLOS BRANCH FAILED
1053 002200 000240          SCOPE
1054
1055 002202 000257          CCC
1056 002204 000261          SEC
  
```


1113					
1114	002326	001401	BEG	.+4	;BEG SHOULD NOT BRANCH
1115	002330	000401	BR	.+4	
1116	002332	000000	HLT		;BEG BRANCH FAILED
1117	002334	000240	SCOPE		
1118					
1119					
1120	002336	002401	BLT	.+4	;BLT SHOULD BRANCH
1121	002340	000000	HLT		;BLT BRANCH FAILED
1122	002342	000240	SCOPE		
1123					
1124	002344	002001	BGE	.+4	;BGE SHOULD NOT BRANCH
1125	002346	000401	BR	.+4	
1126	002350	000000	HLT		;BGE BRANCH FAILED
1127	002352	000240	SCOPE		
1128					
1129					
1130	002354	003401	BLE	.+4	;BLE SHOULD BRANCH
1131	002356	000000	HLT		;BLE BRANCH FAILED
1132	002360	000240	SCOPE		
1133					
1134	002362	003001	BGT	.+4	;BGT SHOULD NOT BRANCH
1135	002364	000401	BR	.+4	
1136	002366	000000	HLT		;BGT BRANCH FAILED
1137	002370	000240	SCOPE		
1138					
1139					
1140	002372	103001	BHIS	.+4	;BHIS SHOULD BRANCH
1141	002374	000000	HLT		;BHIS BRANCH FAILED
1142	002376	000240	SCOPE		
1143					
1144	002400	103401	BLO	.+4	;BLO SHOULD NOT BRANCH
1145	002402	000401	BR	.+4	
1146	002404	000000	HLT		;BLO BRANCH FAILED
1147	002406	000240	SCOPE		
1148					
1149					
1150	002410	101001	BHI	. 4	;BHI SHOULD BRANCH
1151	002412	000000	HLT		;BHI BRANCH FAILED
1152	002414	000240	SCOPE		
1153					
1154	002416	101401	BLOS	.+4	;BLOS SHOULD NOT BRANCH
1155	002420	000401	BR	.+4	
1156	002422	000000	HLT		;BLOS BRANCH FAILED
1157	002424	000240	SCOPE		
1158					
1159	002426	000257	CCC		
1160	002430	000263	+SEV!SEC		;3
1161					
1162	002432	001001	BNE	.+4	;BNE SHOULD BRANCH
1163	002434	000000	HLT		;BNE BRANCH FAILED
1164	002436	000240	SCOPE		
1165					
1166	002440	001401	BEG	.+4	;BEG SHOULD NOT BRANCH
1167	002442	000401	BR	.+4	
1168	002444	000000	HLT		;BEG BRANCH FAILED

1169	002446	000240	SCOPE		
1170					
1171					
1172	002450	002401	BLT	.+4	;BLT SHOULD BRANCH
1173	002452	000000	HLT		;BLT BRANCH FAILED
1174	002454	000240	SCOPE		
1175					
1176	002456	002001	BGE	.+4	;BGE SHOULD NOT BRANCH
1177	002460	000401	BR	.+4	
1178	002462	000000	HLT		;BGE BRANCH FAILED
1179	002464	000240	SCOPE		
1180					
1181					
1182	002466	003401	BLE	.+4	;BLE SHOULD BRANCH
1183	002470	000000	HLT		;BLE BRANCH FAILED
1184	002472	000240	SCOPE		
1185					
1186	002474	003001	BGT	.+4	;BGT SHOULD NOT BRANCH
1187	002476	000401	BR	.+4	
1188	002500	000000	HLT		;BGT BRANCH FAILED
1189	002502	000240	SCOPE		
1190					
1191					
1192	002504	103401	BLO	.+4	;BLO SHOULD BRANCH
1193	002506	000000	HLT		;BLO BRANCH FAILED
1194	002510	000240	SCOPE		
1195					
1196	002512	103001	BHIS	.+4	;BHIS SHOULD NOT BRANCH
1197	002514	000401	BR	.+4	
1198	002516	000000	HLT		;BHIS BRANCH FAILED
1199	002520	000240	SCOPE		
1200					
1201					
1202	002522	101401	BLOS	.+4	;BLOS SHOULD BRANCH
1203	002524	000000	HLT		;BLOS BRANCH FAILED
1204	002526	000240	SCOPE		
1205					
1206	002530	101001	BHI	.+4	;BHI SHOULD NOT BRANCH
1207	002532	000401	BR	.+4	
1208	002534	000000	HLT		;BHI BRANCH FAILED
1209	002536	000240	SCOPE		
1210					
1211	002540	000257	CCC		
1212	002542	000264	SEZ		;4
1213					
1214	002544	001401	BEG	.+4	;BEG SHOULD BRANCH
1215	002546	000000	HLT		;BEG BRANCH FAILED
1216	002550	000240	SCOPE		
1217					
1218	002552	001001	BNE	.+4	;BNE SHOULD NOT BRANCH
1219	002554	000401	BR	.+4	
1220	002556	000000	HLT		;BNE BRANCH FAILED
1221	002560	000240	SCOPE		
1222					
1223					
1224	002562	002001	BGE	.+4	;BGE SHOULD BRANCH

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1225	002564	000000	HLT		;BGE BRANCH FAILED
1226	002566	000240	SCOPE		
1227					
1228	002570	002401	BLT	.+4	;BLT SHOULD NOT BRANCH
1229	002572	000401	BR	.+4	
1230	002574	000000	HLT		;BLT BRANCH FAILED
1231	002576	000240	SCOPE		
1232					
1233					
1234	002600	003401	BLE	.+4	;BLE SHOULD BRANCH
1235	002602	000000	HLT		;BLE BRANCH FAILED
1236	002604	000240	SCOPE		
1237					
1238	002606	003001	BGT	.+4	;BGT SHOULD NOT BRANCH
1239	002610	000401	BR	.+4	
1240	002612	000000	HLT		;BGT BRANCH FAILED
1241	002614	000240	SCOPE		
1242					
1243					
1244	002616	103001	BHIS	.+4	;BHIS SHOULD BRANCH
1245	002620	000000	HLT		;BHIS BRANCH FAILED
1246	002622	000240	SCOPE		
1247					
1248	002624	103401	BLO	.+4	;BLO SHOULD NOT BRANCH
1249	002626	000401	BR	.+4	
1250	002630	000000	HLT		;BLO BRANCH FAILED
1251	002632	000240	SCOPE		
1252					
1253					
1254	002634	101401	BLOS	.+4	;BLOS SHOULD BRANCH
1255	002636	000000	HLT		;BLOS BRANCH FAILED
1256	002640	000240	SCOPE		
1257					
1258	002642	101001	BHI	.+4	;BHI SHOULD NOT BRANCH
1259	002644	000401	BR	.+4	
1260	002646	000000	HLT		;BHI BRANCH FAILED
1261	002650	000240	SCOPE		
1262					
1263	002652	000257	CCC		
1264	002654	000265	+SEC!SEZ		;5
1265					
1266	002656	001401	BEQ	.+4	;BEQ SHOULD BRANCH
1267	002660	000000	HLT		;BEQ BRANCH FAILED
1268	002662	000240	SCOPE		
1269					
1270	002664	001001	BNE	.+4	;BNE SHOULD NOT BRANCH
1271	002666	000401	BR	.+4	
1272	002670	000000	HLT		;BNE BRANCH FAILED
1273	002672	000240	SCOPE		
1274					
1275					
1276	002674	002001	BGE	.+4	;BGE SHOULD BRANCH
1277	002676	000000	HLT		;BGE BRANCH FAILED
1278	002700	000240	SCOPE		
1279					
1280	002702	002401	BLT	.+4	;BLT SHOULD NOT BRANCH

1281	002704	000401	BR	.+4	
1282	002706	000000	HLT		;BLT BRANCH FAILED
1283	002710	000240	SCOPE		
1284					
1285					
1286	002712	003401	BLE	.+4	;BLE SHOULD BRANCH
1287	002714	000000	HLT		;BLE BRANCH FAILED
1288	002716	000240	SCOPE		
1289					
1290	002720	003001	BGT	.+4	;BGT SHOULD NOT BRANCH
1291	002722	000401	BR	.+4	
1292	002724	000000	HLT		;BGT BRANCH FAILED
1293	002726	000240	SCOPE		
1294					
1295					
1296	002730	103401	BLO	.+4	;BLO SHOULD BRANCH
1297	002732	000000	HLT		;BLO BRANCH FAILED
1298	002734	000240	SCOPE		
1299					
1300	002736	103001	BHIS	.+4	. 'S SHOULD NOT BRANCH
1301	002740	000401	BR	.+4	
1302	002742	000000	HLT		;BHIS BRANCH FAILED
1303	002744	000240	SCOPE		
1304					
1305					
1306	002746	101401	BLOS	.+4	;BLOS SHOULD BRANCH
1307	002750	000000	HLT		;BLOS BRANCH FAILED
1308	002752	000240	SCOPE		
1309					
1310	002754	101001	BHI	.+4	;BHI SHOULD NOT BRANCH
1311	002756	000401	BR	.+4	
1312	002760	000000	HLT		;BHI BRANCH FAILED
1313	002762	000240	SCOPE		
1314					
1315	002764	000257	CCC		
1316	002766	000266	+SEZ!SEV		:6
1317					
1318	002770	001401	BEQ	.+4	;BEQ SHOULD BRANCH
1319	002772	000000	HLT		;BEQ BRANCH FAILED
1320	002774	000240	SCOPE		
1321					
1322	002776	001001	BNE	.+4	;BNE SHOULD NOT BRANCH
1323	003000	000401	BR	.+4	
1324	003002	000000	HLT		;BNE BRANCH FAILED
1325	003004	000240	SCOPE		
1326					
1327					
1328	003006	002401	BLT	.+4	;BLT SHOULD BRANCH
1329	003010	000000	HLT		;BLT BRANCH FAILED
1330	003012	000240	SCOPE		
1331					
1332	003014	002001	BGE	.+4	;BGE SHOULD NOT BRANCH
1333	003016	000401	BR	.+4	
1334	003020	000000	HLT		;BGE BRANCH FAILED
1335	003022	000240	SCOPE		
1336					

1337					
1338	003024	003401	BLE	.+4	;BLE SHOULD BRANCH
1339	003026	000000	HLT		;BLE BRANCH FAILED
1340	003030	000240	SCOPE		
1341					
1342	003032	003001	BGT	.+4	;BGT SHOULD NOT BRANCH
1343	003034	000401	BR	.+4	
1344	003036	000000	HLT		;BGT BRANCH FAILED
1345	003040	000240	SCOPE		
1346					
1347					
1348	003042	103001	BHIS	.+4	;BHIS SHOULD BRANCH
1349	003044	000000	HLT		;BHIS BRANCH FAILED
1350	003046	000240	SCOPE		
1351					
1352	003050	103401	BLO	.+4	;BLO SHOULD NOT BRANCH
1353	003052	000401	BR	.+4	
1354	003054	000000	HLT		;BLO BRANCH FAILED
1355	003056	000240	SCOPE		
1356					
1357					
1358	003060	101401	BLOS	.+4	;BLOS SHOULD BRANCH
1359	003062	000000	HLT		;BLOS BRANCH FAILED
1360	003064	000240	SCOPE		
1361					
1362	003066	101001	BHI	.+4	;BHI SHOULD NOT BRANCH
1363	003070	000401	BR	.+4	
1364	003072	000000	HLT		;BHI BRANCH FAILED
1365	003074	000240	SCOPE		
1366					
1367	00307E	000257	CCC		
1368	003100	000267	+SEZ!SEV!SEC		;7
1369					
1370	003102	001401	BEQ	.+4	;BEQ SHOULD BRANCH
1371	003104	000000	HLT		;BEQ BRANCH FAILED
1372	003106	000240	SCOPE		
1373					
1374	003110	001001	BNE	.+4	;BNE SHOULD NOT BRANCH
1375	003112	000401	BR	.+4	
1376	003114	000000	HLT		;BNE BRANCH FAILED
1377	003116	000240	SCOPE		
1378					
1379					
1380	003120	002401	BLT	.+4	;BLT SHOULD BRANCH
1381	003122	000000	HLT		;BLT BRANCH FAILED
1382	003124	000240	SCOPE		
1383					
1384	003126	002001	BGE	.+4	;BGE SHOULD NOT BRANCH
1385	003130	000401	BR	.+4	
1386	003132	000000	HLT		;BGE BRANCH FAILED
1387	003134	000240	SCOPE		
1388					
1389					
1390	003136	003401	BLE	.+4	;BLE SHOULD BRANCH
1391	003140	000000	HLT		;BLE BRANCH FAILED
1392	003142	000240	SCOPE		

1393					
1394	003144	003001	BGT	.+4	;BGT SHOULD NOT BRANCH
1395	003146	000401	BR	.+4	
1396	003150	000000	HLT		;BGT BRANCH FAILED
1397	003152	000240	SCOPE		
1398					
1399					
1400	003154	103401	BLO	.+4	;BLO SHOULD BRANCH
1401	003156	000000	HLT		;BLO BRANCH FAILED
1402	003160	000240	SCOPE		
1403					
1404	003162	103001	BHIS	.+4	;BHIS SHOULD NOT BRANCH
1405	003164	000401	BR	.+4	
1406	003166	000000	HLT		;BHIS BRANCH FAILED
1407	003170	000240	SCOPE		
1408					
1409					
1410	003172	101401	BLOS	.+4	;BLOS SHOULD BRANCH
1411	003174	000000	HLT		;BLOS BRANCH FAILED
1412	003176	000240	SCOPE		
1413					
1414	003200	101001	BHI	.+4	;BHI SHOULD NOT BRANCH
1415	003202	000401	BR	.+4	
1416	003204	000000	HLT		;BHI BRANCH FAILED
1417	003206	000240	SCOPE		
1418					
1419	003210	000257	CCC		
1420	003212	000270	SEN		;10
1421					
1422	003214	001001	BNE	.+4	;BNE SHOULD BRANCH
1423	003216	000000	HLT		;BNE BRANCH FAILED
1424	003220	000240	SCOPE		
1425					
1426	003222	001401	BEQ	.+4	;BEQ SHOULD NOT BRANCH
1427	003224	000401	BR	.+4	
1428	003226	000000	HLT		;BEQ BRANCH FAILED
1429	003230	000240	SCOPE		
1430					
1431					
1432	003232	002401	BLT	.+4	;BLT SHOULD BRANCH
1433	003234	000000	HLT		;BLT BRANCH FAILED
1434	003236	000240	SCOPE		
1435					
1436	003240	002001	BGE	.+4	;BGE SHOULD NOT BRANCH
1437	003242	000401	BR	.+4	
1438	003244	000000	HLT		;BGE BRANCH FAILED
1439	003246	000240	SCOPE		
1440					
1441					
1442	003250	003401	BLE	.+4	;BLE SHOULD BRANCH
1443	003252	000000	HLT		;BLE BRANCH FAILED
1444	003254	000240	SCOPE		
1445					
1446	003256	003001	BGT	.+4	;BGT SHOULD NOT BRANCH
1447	003260	000401	BR	.+4	
1448	003262	000000	HLT		;BGT BRANCH FAILED

1449	003264	000240	SCOPE		
1450					
1451					
1452	003266	103001	BHIS	.+4	;BHIS SHOULD BRANCH
1453	003270	000000	HLT		;BHIS BRANCH FAILED
1454	003272	000240	SCOPE		
1455					
1456	003274	103401	BLO	.+4	;BLO SHOULD NOT BRANCH
1457	003276	000401	BR	.+4	
1458	003300	000000	HLT		;BLO BRANCH FAILED
1459	003302	000240	SCOPE		
1460					
1461					
1462	003304	101001	BHI	.+4	;BHI SHOULD BRANCH
1463	003306	000000	HLT		;BHI BRANCH FAILED
1464	003310	000240	SCOPE		
1465					
1466	003312	101401	BLOS	.+4	;BLOS SHOULD NOT BRANCH
1467	003314	000401	BR	.+4	
1468	003316	000000	HLT		;BLOS BRANCH FAILED
1469	003320	000240	SCOPE		
1470					
1471	003322	000257	CCC		
1472	003324	000271	+SEN!SEC		;11
1473					
1474	003326	001001	BNE	.+4	;BNE SHOULD BRANCH
1475	003330	000000	HLT		;BNE BRANCH FAILED
1476	003332	000240	SCOPE		
1477					
1478	003334	001401	BEQ	.+4	;BEQ SHOULD NOT BRANCH
1479	003336	000401	BR	.+4	
1480	003340	000000	HLT		;BEQ BRANCH FAILED
1481	003342	000240	SCOPE		
1482					
1483					
1484	003344	002401	BLT	.+4	;BLT SHOULD BRANCH
1485	003346	000000	HLT		;BLT BRANCH FAILED
1486	003350	000240	SCOPE		
1487					
1488	003352	002001	BGE	.+4	;BGE SHOULD NOT BRANCH
1489	003354	000401	BR	.+4	
1490	003356	000000	HLT		;BGE BRANCH FAILED
1491	003360	000240	SCOPE		
1492					
1493					
1494	003362	003401	BLE	.+4	;BLE SHOULD BRANCH
1495	003364	000000	HLT		;BLE BRANCH FAILED
1496	003366	000240	SCOPE		
1497					
1498	003370	003001	BGT	.+4	;BGT SHOULD NOT BRANCH
1499	003372	000401	BR	.+4	
1500	003374	000000	HLT		;BGT BRANCH FAILED
1501	003376	000240	SCOPE		
1502					
1503					
1504	003400	103401	BLO	.+4	;BLO SHOULD BRANCH

1505	003402	000000	HLT		;BLO BRANCH FAILED
1506	003404	000240	SCOPE		
1507					
1508	003406	103001	BHIS	.+4	;BHIS SHOULD NOT BRANCH
1509	003410	000401	BR	.+4	
1510	003412	000000	HLT		;BHIS BRANCH FAILED
1511	003414	000240	SCOPE		
1512					
1513					
1514	003416	101401	BLOS	.+4	;BLOS SHOULD BRANCH
1515	003420	000000	HLT		;BLOS BRANCH FAILED
1516	003422	000240	SCOPE		
1517					
1518	003424	101001	BHI	.+4	;BHI SHOULD NOT BRANCH
1519	003426	000401	BR	.+4	
1520	003430	000000	HLT		;BHI BRANCH FAILED
1521	003432	000240	SCOPE		
1522					
1523	003434	000257	CCC		
1524	003436	000272	+SEN!SEV		;12
1525					
1526	003440	001001	BNE	.+4	;BNE SHOULD BRANCH
1527	003442	000000	HLT		;BNE BRANCH FAILED
1528	003444	000240	SCOPE		
1529					
1530	003446	001401	BEG	.+4	;BEG SHOULD NOT BRANCH
1531	003450	000401	BR	.+4	
1532	003452	000000	HLT		;BEG BRANCH FAILED
1533	003454	000240	SCOPE		
1534					
1535					
1536	003456	002001	BGE	.+4	;BGE SHOULD BRANCH
1537	003460	000000	HLT		;BGE BRANCH FAILED
1538	003462	000240	SCOPE		
1539					
1540	003464	002401	BLT	.+4	;BLT SHOULD NOT BRANCH
1541	003466	000401	BR	.+4	
1542	003470	000000	HLT		;BLT BRANCH FAILED
1543	003472	000240	SCOPE		
1544					
1545					
1546	003474	003001	BGT	.+4	;BGT SHOULD BRANCH
1547	003476	000000	HLT		;BGT BRANCH FAILED
1548	003500	000240	SCOPE		
1549					
1550	003502	003401	BLE	.+4	;BLE SHOULD NOT BRANCH
1551	003504	000401	BR	.+4	
1552	003506	000000	HLT		;BLE BRANCH FAILED
1553	003510	000240	SCOPE		
1554					
1555					
1556	003512	103001	BHIS	.+4	;BHIS SHOULD BRANCH
1557	003514	000000	HLT		;BHIS BRANCH FAILED
1558	003516	000240	SCOPE		
1559					
1560	003520	103401	BLO	.+4	;BLO SHOULD NOT BRANCH

1561	003522	000401	BR	.+4	
1562	003524	000000	HLT		;BLO BRANCH FAILED
1563	003526	000240	SCOPE		
1564					
1565					
1566	003530	101001	BHI	.+4	;BHI SHOULD BRANCH
1567	003532	000000	HLT		;BHI BRANCH FAILED
1568	003534	000240	SCOPE		
1569					
1570	003536	101401	BLOS	.+4	;BLOS SHOULD NOT BRANCH
1571	003540	000401	BR	.+4	
1572	003542	000000	HLT		;BLOS BRANCH FAILED
1573	003544	000240	SCOPE		
1574					
1575	003546	000257	CCC		
1576	003550	000273	+SEN!SEV!SEC		:13
1577					
1578	003552	001001	BNE	.+4	;BNE SHOULD BRANCH
1579	003554	000000	HLT		;BNE BRANCH FAILED
1580	003556	000240	SCOPE		
1581					
1582	003560	001401	BEQ	.+4	;BEQ SHOULD NOT BRANCH
1583	003562	000401	BR	.+4	
1584	003564	000000	HLT		;BEQ BRANCH FAILED
1585	003566	000240	SCOPE		
1586					
1587					
1588	003570	002001	BGE	.+4	;BGE SHOULD BRANCH
1589	003572	000000	HLT		;BGE BRANCH FAILED
1590	003574	000240	SCOPE		
1591					
1592	003576	002401	BLT	.+4	;BLT SHOULD NOT BRANCH
1593	003600	000401	BR	.+4	
1594	003602	000000	HLT		;BLT BRANCH FAILED
1595	003604	000240	SCOPE		
1596					
1597					
1598	003606	003001	BGT	.+4	;BGT SHOULD BRANCH
1599	003610	000000	HLT		;BGT BRANCH FAILED
1600	003612	000240	SCOPE		
1601					
1602	003614	003401	BLE	.+4	;BLE SHOULD NOT BRANCH
1603	003616	000401	BR	.+4	
1604	003620	000000	HLT		;BLE BRANCH FAILED
1605	003622	000240	SCOPE		
1606					
1607					
1608	003624	103401	BLO	.+4	;BLO SHOULD BRANCH
1609	003626	000000	HLT		;BLO BRANCH FAILED
1610	003630	000240	SCOPE		
1611					
1612	003632	103001	BHIS	.+4	;BHIS SHOULD NOT BRANCH
1613	003634	000401	BR	.+4	
1614	003636	000000	HLT		;BHIS BRANCH FAILED
1615	003640	000240	SCOPE		
1616					

1617					
1619	003642	101401	BLOS	.+4	;BLOS SHOULD BRANCH
1619	003644	000000	HLT		;BLOS BRANCH FAILED
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1621					
1622	003650	101001	BHI	.+4	;BHI SHOULD NOT BRANCH
1623	003652	000401	BR	.+4	
1624	003654	000000	HLT		;BHI BRANCH FAILED
1625	003656	000240	SCOPE		
1626					
1627	003660	000257	CCC		
1628	003662	000274	+SEN!SEZ		;14
1629					
1630	003664	001401	BEQ	.+4	;BEQ SHOULD BRANCH
1631	003666	000000	HLT		;BEQ BRANCH FAILED
1632	003670	000240	SCOPE		
1633					
1634	003672	001001	BNE	.+4	;BNE SHOULD NOT BRANCH
1635	003674	000401	BR	.+4	
1636	003676	000000	HLT		;BNE BRANCH FAILED
1637	003700	000240	SCOPE		
1638					
1639					
1640	003702	002401	BLT	.+4	;BLT SHOULD BRANCH
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1643					
1644	003710	002001	BGE	.+4	;BGE SHOULD NOT BRANCH
1645	003712	000401	BR	.+4	
1646	003714	000000	HLT		;BGE BRANCH FAILED
1647	003716	000240	SCOPE		
1648					
1649					
1650	003720	003401	BLE	.+4	;BLE SHOULD BRANCH
1651	003722	000000	HLT		;BLE BRANCH FAILED
1652	003724	000240	SCOPE		
1653					
1654	003726	003001	BGT	.+4	;BGT SHOULD NOT BRANCH
1655	003730	000401	BR	.+4	
1656	003732	000000	HLT		;BGT BRANCH FAILED
1657	003734	000240	SCOPE		
1658					
1659					
1660	003736	103001	BHIS	.+4	;BHIS SHOULD BRANCH
1661	003740	000000	HLT		;BHIS BRANCH FAILED
1662	003742	000240	SCOPE		
1663					
1664	003744	103401	BLO	.+4	;BLO SHOULD NOT BRANCH
1665	003746	000401	BR	.+4	
1666	003750	000000	HLT		;BLO BRANCH FAILED
1667	003752	000240	SCOPE		
1668					
1669					
1670	003754	101401	BLOS	.+4	;BLOS SHOULD BRANCH
1671	003756	000000	HLT		;BLOS BRANCH FAILED
1672	003760	000240	SCOPE		

1673					
1674	003762	101001	BHI	.+4	;BHI SHOULD NOT BRANCH
1675	003764	000401	BR	.+4	
1676	003766	000000	HLT		;BHI BRANCH FAILED
1677	003770	000240	SCOPE		
1678					
1679	003772	000257	CCC		
1680	003774	000275	+SEN!SEZ!SEC		;15
1681					
1682	003776	001401	BEQ	.+4	;BEQ SHOULD BRANCH
1683	004000	000000	HLT		;BEQ BRANCH FAILED
1684	004002	000240	SCOPE		
1685					
1686	004004	001001	BNE	.+4	;BNE SHOULD NOT BRANCH
1687	004006	000401	BR	.+4	
1688	004010	000000	HLT		;BNE BRANCH FAILED
1689	004012	000240	SCOPE		
1690					
1691					
1692	004014	002401	BLT	.+4	;BLT SHOULD BRANCH
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1694	004020	000240	SCOPE		
1695					
1696	004022	002001	BGE	.+4	;BGE SHOULD NOT BRANCH
1697	004024	000401	BR	.+4	
1698	004026	000000	HLT		;BGE BRANCH FAILED
1699	004030	000240	SCOPE		
1700					
1701					
1702	004032	003401	BLE	.+4	;BLE SHOULD BRANCH
1703	004034	000000	HLT		;BLE BRANCH FAILED
1704	004036	000240	SCOPE		
1705					
1706	004040	003001	BGT	.+4	;BGT SHOULD NOT BRANCH
1707	004042	000401	BR	.+4	
1708	004044	000000	HLT		;BGT BRANCH FAILED
1709	004046	000240	SCOPE		
1710					
1711					
1712	004050	103401	BLO	.+4	;BLO SHOULD BRANCH
1713	004052	000000	HLT		;BLO BRANCH FAILED
1714	004054	000240	SCOPE		
1715					
1716	004056	103001	BHIS	.+4	;BHIS SHOULD NOT BRANCH
1717	004060	000401	BR	.+4	
1718	004062	000000	HLT		;BHIS BRANCH FAILED
1719	004064	000240	SCOPE		
1720					
1721					
1722	004066	101401	BLOS	.+4	;BLOS SHOULD BRANCH
1723	004070	000000	HLT		;BLOS BRANCH FAILED
1724	004072	000240	SCOPE		
1725					
1726	004074	101001	BHI	.+4	;BHI SHOULD NOT BRANCH
1727	004076	000401	BR	.+4	
1728	004100	000000	HLT		;BHI BRANCH FAILED

1729	004102	000240	SCOPE		
1730					
1731	004104	000257	CCC		
1732	004106	000276	+SEN!SEZ!SEV		;16
1733					
1734	004110	001401	BEQ	.+4	;BEQ SHOULD BRANCH
1735	004112	000000	HLT		;BEQ BRANCH FAILED
1736	004114	000240	SCOPE		
1737					
1738	004116	001001	BNE	.+4	;BNE SHOULD NOT BRANCH
1739	004120	000401	BR	.+4	
1740	004122	000000	HLT		;BNE BRANCH FAILED
1741	004124	000240	SCOPE		
1742					
1743					
1744	004126	002001	BGE	.+4	;BGE SHOULD BRANCH
1745	004130	000000	HLT		;BGE BRANCH FAILED
1746	004132	000240	SCOPE		
1747					
1748	004134	002401	BLT	.+4	;BLT SHOULD NOT BRANCH
1749	004136	000401	BR	.+4	
1750	004140	000000	HLT		;BLT BRANCH FAILED
1751	004142	000240	SCOPE		
1752					
1753					
1754	004144	003401	BLE	.+4	;BLE SHOULD BRANCH
1755	004146	000000	HLT		;BLE BRANCH FAILED
1756	004150	000240	SCOPE		
1757					
1758	004152	003001	BGT	.+4	;BGT SHOULD NOT BRANCH
1759	004154	000401	BR	.+4	
1760	004156	000000	HLT		;BGT BRANCH FAILED
1761	004160	000240	SCOPE		
1762					
1763					
1764	004162	103001	BHIS	.+4	;BHIS SHOULD BRANCH
1765	004164	000000	HLT		;BHIS BRANCH FAILED
1766	004166	000240	SCOPE		
1767					
1768	004170	103401	BLO	.+4	;BLO SHOULD NOT BRANCH
1769	004172	000401	BR	.+4	
1770	004174	000000	HLT		;BLO BRANCH FAILED
1771	004176	000240	SCOPE		
1772					
1773					
1774	004200	101401	BLOS	.+4	;BLOS SHOULD BRANCH
1775	004202	000000	HLT		;BLOS BRANCH FAILED
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1777					
1778	004206	101001	BHI	.+4	;BHI SHOULD NOT BRANCH
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1782					
1783	004216	000277	SCC		;17
1784					

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1809 004220 001401      BEQ      .+4      ;BEQ SHOULD BRANCH
1810 004222 000000      HLT
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1812 004226 001001      BNE      .+4      ;BNE SHOULD NOT BRANCH
1813 004228 000401      BR       .+4
1814 004230 000000      HLT      ;BNE BRANCH FAILED
1815 004232 000240      SCOPE
1816 004236 000001      BGE      .+4      ;BGE SHOULD BRANCH
1817 004240 000000      HLT      ;BGE BRANCH FAILED
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1820 004246 000401      BR       .+4
1821 004250 000000      HLT      ;BLT BRANCH FAILED
1822 004252 000240      SCOPE
1823 004254 000401      BLE      .+4      ;BLE SHOULD BRANCH
1824 004256 000000      HLT      ;BLE BRANCH FAILED
1825 004260 000240      SCOPE
1826 004262 000001      BGT      .+4      ;BGT SHOULD NOT BRANCH
1827 004264 000401      BR       .+4
1828 004266 000000      HLT      ;BGT BRANCH FAILED
1829 004270 000240      SCOPE
1830 004272 103401      BLO      .+4      ;BLO SHOULD BRANCH
1831 004274 000000      HLT      ;BLO BRANCH FAILED
1832 004276 000240      SCOPE
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1834 004302 000401      BR       .+4
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1836 004306 000240      SCOPE
1837 004310 101401      BLOS     .+4      ;BLOS SHOULD BRANCH
1838 004312 000000      HLT      ;BLOS BRANCH FAILED
1839 004314 000240      SCOPE
1840 004316 101001      BHI     .+4      ;BHI SHOULD NOT BRANCH
1841 004320 000401      BR       .+4
1842 004322 000000      HLT      ;BHI BRANCH FAILED
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1845 004332 001006      BNE      FIN
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C04

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0000.P11

:841

000001

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2

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 RUN-TIME RATIO: 172/53=3.2
 CORE USED: 33K (65 PAGES)

