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DECUS NO.	8-381
TITLE	CARDREADER SUBROUTINE FOR DISK EDITOR
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SOURCE LANGUAGE	PAL-D

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CARDREADER SUBROUTINE FOR DISK EDITOR

DECUS Program Library Write-up

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PROGRAM DESCRIPTION

The program allows for the use of a cardreader as input with the editor. The high speed reader is replaced by the cardreader. All other input and output equipment can be used without any changes.

After every card a CR is produced to end the line. The read-in is terminated by a CTRL/FORM, when 40 cards have been read. By doing this the overflow of the textbuffer is avoided and there is room for possible changes.

REQUIRED HARDWARE

PDP-8/I with 8K core, ASR33, DF32 o. RF08 o. TC01 u. TU55, CR 8/I.

REQUIRED PROGRAMS

Disk monitor system, disk editor (DEC-D8-ESAB)

STORAGE REQUIREMENTS

214₈ locations in Field 1. Subroutine will be in Field 0 on input.

MISCELLANEOUS

Loading of the program

Load the disk editor and the subroutine with the monitor loader and store the program as a systems programmer with the following command: "Save Name! 0-3577;3200". When starting, the subroutine will be transferred to Field 1, so the complete textbuffer will be available.

Cardreader code

The cardreader code can be changed as required.

The subroutine can also be written for a 4K machine. It will then remain in the textbuffer which consequently will have to be much smaller.

CARDREADER SUBROUTINE FOR DISK-EDITOR

.PALD
*OUT-S:81
*
*IN-S:P4
*
*OPT-T

SYMBOL TABLE

ANFANG	3212
BEG	1123
BEGINN	3214
CNT	3326
COL	3320
COLCNT	3323
CR	3310
CRD	3317
CRDCNT	3324
CRFLAG	3325
END	3213
ENDE	3430
FORM	3235
K214	3321
K215	3322
LOOP	3201
LTABLE	3330
M5	3316
RCRA	6632
RCRD	6674
RCSD	6671
RCSE	6672
RCSF	6631
RDATA	3251
RDCRD	3245
READ	3327
RETURN	3306
TABLE	3331

This program replaces the high speed reader of the Disk Editor with the Cardreader. It will be loaded into Field 0 of the Editor. The starting address is 3200. The Subroutine will then be transferred to Field 1 so that the complete textbuffer will be retained. After the transferring the Editor will automatically start.

All other input and output routines remain the same.

The read-in of every card is ended with a CR to close out the line. After 40 cards the read-in will be stopped automatically with a CTRL/FORM, so as not to overload the textbuffer.

If the Cardreader is not turned on, when the read command is given, it will automatically go back to Command-Mode.

An error during read-in of a card will stop the machine at address 1330. The last read card will have to be read again.

/CARDREADER SUBROUTINE FOR EDITOR
 /REQUIREMENTS: 8K CORE STORAGE
 /HIGH SPEED READER REPLACED BY CARDREADER
 /

RCSF=6631
 RCRA=6632
 RCSD=6671
 RCSE=6672
 RCRD=6674
 /
 /

*1117

1117	0000		0	/HIGH SPEED READER ROUTINE REPLACEMENT
1120	6213		6213	/STORAGE FIELD 1
1121	4723		JMS I BEG	/CARDREADER ROUTINE
1122	5717		JMP I .-3	
1123	3214	BEG,	BEGINN	
		/		
		/		
		*3200		
3200	7200		CLA	/NEW START
3201	1612	LOOP,	TAD I ANFANG	/GET 1 WORD FROM FIELD 0
3202	6211		6211	/CHANGE DATAFIELD IN 1
3203	3612		DCA I ANFANG	/STORE IN FIELD 1
3204	6201		6201	/CHANGE DATAFIELD IN 0
3205	2212		ISZ ANFANG	/INDEX COUNTER
3206	2213		ISZ END	/EVERYTHING TRANSFERRED?
3207	5201		JMP LOOP	/NO, TRANSFER NEXT WORD
3210	5611		JMP I .1	/YES
3211	2600		2600	/GO TO START OF EDITOR
3212	3214	ANFANG,	BEGINN	
3213	7563	END,	BEGINN-ENDE-1	
		/		
		/		
3214	0000	BEGINN,	0	
3215	7200		CLA	
3216	2323		ISZ COLCNT	/LAST SYMBOL?
3217	5251		JMP RDATA	/NO, READ NEXT SYMBOL
3220	2325		ISZ CRFLAG	/YES, LINE CLOSED?
3221	5310		JMP CR	/NO, CLOSE LINE
3222	3326		DCA CNT	/YES, SET COUNTER
3223	6671		RCSD	/SKIP ON CARD DONE FLAG
3224	7410		SKP	
3225	5230		JMP .+3	/CARD DONE FLAG SET
3226	2326		ISZ CNT	/WAIT 40 MSEC FOR
3227	5223		JMP .-4	/CARD DONE FLAG
3230	6674		RCRD	/CLEAR CARD DONE FLAG
3231	6632		RCRA	/CLEAR DATA READY FLAG
3232	7200		CLA	

3233	2324		ISZ	CRDCNT	/ENOUGH CARDS READ?
3234	5245		JMP	RDCRD	/NO, READ NEXT CARD
3235	1317	FORM,	TAD	CRD	/YES, END READ-IN
3236	3324		DCA	CRDCNT	/SET CARD COUNTER BACK
3237	7240		CLA	CMA	
3240	3323		DCA	COLCNT	/SET COLUMN COUNTER TO -1
3241	7240		CLA	CMA	
3242	3325		DCA	CRFLAG	/SET LINE END FLAG
3243	1321		TAD	K214	/FORMFEED, BACK TO
3244	5306		JMP	RETURN	/COMMAND MODE
3245	1320	RDCRD,	TAD	COL	
3246	3323		DCA	COLCNT	/SET COLUMN COUNTER BACK
3247	6672		RCSE		/SELECT CARD READER, SKIP IF READY
3250	5235		JMP	FORM	/NOT READY
3251	1316	RDATA,	TAD	M5	/READ A SYMBOL
3252	3326		DCA	CNT	/SET COUNTER FOR
3253	3327		DCA	READ	/WAIT LOOP
		/			
		/.			
3254	6631		RCSF		/SKIP ON DATA READY FLAG
3255	7410		SKP		
3256	5264		JMP	+.6	/FLAG SET
3257	2327		ISZ	READ	
3260	5254		JMP	-.4	/WAIT 200 MSEC FOR
3261	2326		ISZ	CNT	/DATA READY FLAG
3262	5254		JMP	-.6	
3263	5235		JMP	FORM	/DATA READY FLAG DID NOT OCCUR
3264	6632		RCRA		/READ ALPHANUMERIC
3265	3327		DCA	READ	/STORE AB
3266	1320		TAD	COL	/SET COUNTER FOR
3267	3326		DCA	CNT	/WAIT LOOP
3270	2326		ISZ	CNT	
3271	5270		JMP	-.1	/WAIT 360 MICROSEC
3272	6632		RCRA		/READ AGAIN
3273	7041		CIA		/AND
3274	1327		TAD	READ	/COMPARE
3275	7640		SZA	CLA	/READ CORRECTLY?
3276	7410		SKP		
3277	5302		JMP	+.3	
3300	7402		HLT		/NO
3301	5235		JMP	FORM	
3302	1327		TAD	READ	/YES
3303	1330		TAD	LTABLE	/LOOK UP
3304	3327		DCA	READ	/IN TABLE
3305	1727		TAD I	READ	/FOR ASCII CODE
3306	6203	RETURN,	6203		/TRANSFER TO FIELD 0
3307	5614		JMP I	BEGINN	/GO BACK
3310	7240	CR,	CLA	CMA	

3311	3323	DCA	COLCNT	/SET COLUMN COUNTER TO -1
3312	724Ø	CLA	CMA	
3313	3325	DCA	CRFLAG	/ERASE END OF LINE FLAG
3314	1322	TAD	K215	/END OF LINE
3315	53Ø6	JMP	RETURN	
3316	7773	M5,	-5	
3317	7727	CRD,	-51	
332Ø	766Ø	COL,	-12Ø	
3321	Ø214	K214,	214	
3322	Ø215	K215,	215	
3323	7777	COLCNT,	-1	
3324	7727	CRDCNT,	-51	
3325	7777	CRFLAG,	-1	
3326	ØØØØ	CNT,	Ø	
3327	ØØØØ	READ,	Ø	
333Ø	3331	LTABLE,	TABLE	
		/		
		/TABLE FOR ASCII CODE		
3331	Ø24Ø	TABLE,	24Ø	/SPACE (REPLACE NOT LEGAL SYMBOL)
3332	Ø261		261	/1
3333	Ø262		262	/2
3334	Ø263		263	/3
3335	Ø264		264	/4
3336	Ø265		265	/5
3337	Ø266		266	/6
334Ø	Ø267		267	/7
3341	Ø27Ø		27Ø	/8
3342	Ø271		271	/9
3343	Ø24Ø		24Ø	/SPACE :
3344	Ø275		275	/= μ
3345	Ø3ØØ		3ØØ	/ @
3346	Ø336		336	/ ↑ ' =
3347	Ø247		247	/ ' =
335Ø	Ø334		334	/ \ "
3351	Ø26Ø		26Ø	/Ø
3352	Ø257		257	//
		/		
		/		
3353	Ø323		323	/S
3354	Ø324		324	/T
3355	Ø325		325	/U
3356	Ø326		326	/V
3357	Ø327		327	/W
336Ø	Ø33Ø		33Ø	/X
3361	Ø331		331	/Y
3362	Ø332		332	/Z

3363	Ø273	273	/;	blank
3364	Ø254	254	/,	
3365	Ø25Ø	25Ø	/(%
3366	Ø242	242	/"	blank
3367	Ø243	243	/"	>
337Ø	Ø245	245	/%	?
3371	Ø255	255	/-	
3372	Ø312	312	/J	
3373	Ø313	313	/K	
3374	Ø314	314	/L	
3375	Ø315	315	/M	
3376	Ø316	316	/N	
3377	Ø317	317	/O	
34ØØ	Ø32Ø	32Ø	/P	
34Ø1	Ø321	321	/Q	
34Ø2	Ø322	322	/R	
34Ø3	Ø241	241	/!	
34Ø4	Ø244	244	/\$	
34Ø5	Ø252	252	/*	
34Ø6	Ø333	333	/ [)
34Ø7	Ø276	276	/>	;
341Ø	Ø246	246	/&	7
3411	Ø253	253	/+	2
3412	Ø3Ø1	3Ø1	/A	
3413	Ø3Ø2	3Ø2	/B	
3414	Ø3Ø3	3Ø3	/C	
3415	Ø3Ø4	3Ø4	/D	
3416	Ø3Ø5	3Ø5	/E	
3417	Ø3Ø6	3Ø6	/F	
342Ø	Ø3Ø7	3Ø7	/G	
3421	Ø31Ø	31Ø	/H	
3422	Ø311	311	/I	
3423	Ø277	277	/?	ç
3424	Ø256	256	/.	
3425	Ø251	251	/)	<
3426	Ø335	335	/]	(
3427	Ø274	274	/<	+
343Ø	Ø272	272	/:	
	ENDE,			