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Text File Reader

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Abstract

A new Text File Reader is presented which either outputs a given text or ASCII file line-by-line to the screen under user control, or dumps the entire contents of the file to the printer in one continuous outflow.

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This paper and its associated code are available online at:

<http://www.bds-soft.com/cocoPapers.php> .

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Introduction

What !!?

Why another text file reader when so many different word processors and similar programs are already available? For example:

Telewriter-64 and -128, C. C. Writer (Oh... Um... Yeah, it only took me about 35 years to see the “See See Rider” song reference (sigh!)), Super Color Writer, V.I.P. Writer, Window Writer, etc.

The short answer is simple: Because I had fun programming it!

The slightly more complex answer is that if I can read a text file, then I can go on to build methods that involve checking the text, comparing files, sorting the text, altering the text, or taking other actions based on what the text says, i.e. I can build my own text processor, assembler, or whatever. More fun! (How about a cross-compiler that runs on the CoCo and produces executables that run on the Raspberry Pi? Gack! What have I done?)

A Note on Numbers: To keep everything simple to understand, and also neatly lined-up, I frequently refer to numbers as decimal bytes with three full digits, e.g. 004, 027, 229, etc. See Appendix A for conversions between the decimal and hexadecimal representations of bytes.

In works of this complexity (at least for me) typos and other errors are bound to sneak in. Please let me know about any you discover so I can note and correct them.

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TXTFILRD.BAS: The Text File Reader

The BASIC Language Program:

```
1000 '*****
1010 '*
1020 '* TXTFILRD.BAS
1030 '* MDJ 2021/10/16
1040 '*
1050 '* TEXT FILE
1060 '* READER
1070 '*
1080 '*****
1090 '
1200 '*****
1210 '*
1220 '* INITIAL SETUP
1230 '*
1240 '*****
1250 '
1260 PCLEAR 1
1270 CLEAR 8192
1280 '
1400 '*****
1410 '*
1420 '* SPLASH SCREEN
1430 '*
1440 '* A$ = USER RESPONSE
1450 '*
1460 '*****
1470 '
1480 CLS
1490 PRINT@ 138, "TXTFILRD.BAS"
1500 PRINT@ 168, "TEXT FILE READER"
1510 PRINT@ 262, "BY M. DAVID JOHNSON"
1520 PRINT@ 299, "2021/10/16"
1530 PRINT@ 386, "(PRESS ANY KEY TO CONTINUE)"
1540 A$=INKEY$
1550 IF A$="" GOTO 1540
1560 '
1700 '*****
1710 '*
1720 '* SELECT DISK DRIVE
1730 '*
```

```

1740 '* DN = DISK DRIVE #
1750 '*
1760 '*****
1770 '
1780 CLS
1790 PRINT@ 66, "PLEASE CHOOSE:"
1800 PRINT@ 130, "(0) DISK DRIVE 0"
1810 PRINT@ 162, "(1) DISK DRIVE 1"
1820 PRINT@ 194, "(2) DISK DRIVE 2"
1830 PRINT@ 226, "(3) DISK DRIVE 3"
1840 A$=INKEY$
1850 IF A$="" GOTO 1840
1860 IF A$="0" GOTO 1920
1870 IF A$="1" GOTO 1940
1880 IF A$="2" GOTO 1960
1890 IF A$="3" GOTO 1980
1900 PRINT@ 386, "(PLEASE PRESS 0, 1, 2, OR 3)"
1910 GOTO 1840
1920 DN=0
1930 GOTO 1990
1940 DN=1
1950 GOTO 1990
1960 DN=2
1970 GOTO 1990
1980 DN=3
1990 PRINT@ 290, "DISK DRIVE#";DN
2000 PRINT@ 322, "HAS BEEN SELECTED"
2010 'SET THE DRIVE
2020 DRIVE DN
2030 PRINT@ 386, "(PRESS ANY KEY TO CONTINUE)"
2040 A$=INKEY$
2050 IF A$="" GOTO 2040
2060 '
2070 CLS
2080 PRINT@ 66, "PROCESSING"
2090 PRINT@ 130, "(PLEASE WAIT)"
2100 PRINT@ 194, "*";
2110 '
2200 '*****
2210 '*
2220 '* READ THE
2230 '* DISK DIRECTORY
2240 '*
2250 '* TN = TRACK NUMBER
2260 '* SN = SECTOR NUMBER
2270 '* B$ = FIRST DISK BUFFER
2280 '* C$ = SECOND DISK BUFFER

```

```

2290 '*
2300 '*****
2310 '
2320 DIM B$(12), C$(12)
2330 TN=17
2340 '
2350 'STEP THROUGH THE
2360 'PERTINENT SECTORS
2370 FOR SN=3 TO 11
2380 DSKI$ DN, TN, SN, B$(SN), C$(SN)
2390 '
2400 'PROGRESS COUNTING
2410 PRINT "*";
2420 NEXT SN
2430 PRINT "*";
2440 '
2600 '*****
2610 '*
2620 '* BREAK THE DISK
2630 '* BUFFERS INTO
2640 '* RAW DIRECTORY
2650 '* BUFFERS
2660 '*
2670 '* R$ = RAW BUFFER
2680 '* T1 = TEMP VARIABLE
2690 '*
2700 '*****
2710 '
2720 DIM R$(72)
2730 '
2740 'STEP THROUGH THE
2750 'PERTINENT SECTORS
2760 T1 = -1
2770 FOR SN = 3 TO 11
2780 T1=T1+1
2790 R$(T1)=MID$(B$(SN), 1, 32)
2800 T1=T1+1
2810 R$(T1)=MID$(B$(SN), 33, 32)
2820 T1=T1+1
2830 R$(T1)=MID$(B$(SN), 65, 32)
2840 T1=T1+1
2850 R$(T1)=MID$(B$(SN), 97, 32)
2860 T1=T1+1
2870 R$(T1)=MID$(C$(SN), 1, 32)
2880 T1=T1+1
2890 R$(T1)=MID$(C$(SN), 33, 32)
2900 T1=T1+1

```

```

2910 R$(T1)=MID$(C$(SN), 65, 32)
2920 T1=T1+1
2930 R$(T1)=MID$(C$(SN), 97, 32)
2940 '
2950 'PROGRESS COUNTING
2960 PRINT "*";
2970 NEXT SN
2980 PRINT@ 226, "*";
2990 '
3100 '*****
3110 '*
3120 '* GET DIRECTORY
3130 '* LISTING ENTRIES
3140 '*
3150 '* F$ = FILENAME
3160 '* E$ = EXTENSION
3170 '*
3180 '*****
3190 '
3200 DIM F$(72), E$(72)
3210 '
3220 'STEP THROUGH THE
3230 'RAW BUFFERS
3240 FOR T1=0 TO 71
3250 '
3260 'FILENAME
3270 F$(T1)=MID$(R$(T1), 1, 8)
3280 E$(T1)=MID$(R$(T1), 9, 3)
3290 '
3300 'PROGRESS COUNTING
3310 PRINT "*";
3320 IF T1=26 THEN PRINT@ 258, "*";
3330 IF T1=53 THEN PRINT@ 290, "*";
3340 NEXT T1
3350 PRINT " -- DONE"
3360 '
3500 '*****
3510 '*
3520 '* SELECT FILE TO READ
3530 '*
3540 '* G$ = 8.3 FILENAME
3550 '* HL = FILENAME LENGTH
3560 '* IL = EXT LENGTH
3570 '* H$ = PADDED FILENAME
3580 '* I$ = PADDED EXT
3590 '* T2,T3 = TEMP VARS
3600 '*

```



```

3610 '*****
3620 '
3630 PRINT@ 66, "          "
3640 PRINT@ 130, "          "
3650 PRINT@ 386, "(PRESS ANY KEY TO CONTINUE)"
3660 A$=INKEY$
3670 IF A$="" GOTO 3660
3680 '
3690 CLS
3700 PRINT@ 66, "PLEASE ENTER FILENAME.EXT"
3710 PRINT@ 130, "  "
3720 INPUT G$
3730 L=LEN(G$)
3740 'CHECK FOR FILENAME
3750 'INPUT ERRORS
3760 IF L>12 GOTO 4500
3770 IF L<1 GOTO 4500
3780 FOR I=1 TO L
3790 IF MID$(G$,I,1)="." GOTO 3840
3800 NEXTI
3810 GOTO 3900
3820 'GOTDOT
3830 'FILENAME LENGTH
3840 HL=I-1
3850 'EXT LENGTH
3860 JL=L-HL-1
3870 GOTO 3950
3880 'NODOT
3890 'FILENAME LENGTH
3900 HL=L
3910 'EXT LENGTH
3920 JL=0
3930 'NAME LENGTHS
3940 'VALIDITY CHECK
3950 IF HL<1 GOTO 4500
3960 IF HL>8 GOTO 4500
3970 IF JL<0 GOTO 4500
3980 IF JL>3 GOTO 4500
3990 'SET INPUT FILENAME
4000 'AND EXT
4010 H$=LEFT$(G$,HL)
4020 J$=RIGHT$(G$,JL)
4030 'FILENAME AND
4040 'EXT PADDING
4050 IF HL>=8 GOTO 4100
4060 T2=8-HL
4070 FOR T3=0 TO T2-1

```

```

4080 H$=H$+" "
4090 NEXT T3
4100 IF JL>=3 GOTO 4150
4110 T2=3-JL
4120 FOR T3=0 TO T2-1
4130 J$=J$+" "
4140 NEXT T3
4150 '
4170 'STEP THROUGH THE
4180 'DIRECTORY ENTRIES
4190 FOR T1=0 TO 71
4200 '
4210 'CHECK FILENAME
4220 'FIRST CHARACTER
4230 'VALIDITY
4240 T2=ASC(F$(T1))
4250 IF T2=0 GOTO 4320
4260 IF T2=255 GOTO 4550
4270 '
4280 IF H$<>F$(T1) GOTO 4320
4290 IF J$<>E$(T1) GOTO 4320
4300 'FILENAME MATCH
4310 GOTO 4350
4320 NEXT T1
4330 'FILE NOT FOUND
4340 GOTO 4550
4350 'FILEMATCH
4360 OPEN "I",#1,G$
4370 IF EOF(1)=-1 GOTO 4430
4380 CLS
4390 PRINT@ 130, "FILE ";G$
4400 PRINT@ 162, "WAS SUCCESSFULLY OPENED."
4410 PRINT@ 386, "(PRESS ANY KEY TO CONTINUE)"
4420 GOTO 4760
4430 CLOSE #1
4440 'EMPTY FILE ERROR
4450 PRINT "EMPTY FILE ERROR"
4460 PRINT "SYSTEM ABORT"
4470 GOTO 32767
4480 '
4490 'FILENAME INPUT ERROR
4500 PRINT "FILENAME ERROR"
4510 PRINT "SYSTEM ABORT"
4520 GOTO 32767
4530 '
4540 'FILE NOT FOUND ERROR
4550 PRINT "FILE NOT FOUND"

```

```

4560 PRINT "SYSTEM ABORT"
4570 GOTO 32767
4580 '
4700 '*****
4710 '*
4720 '* OUTPUT CHOICE SCREEN
4730 '*
4740 '*****
4750 '
4760 CLS
4770 PRINT@ 66, "PLEASE CHOOSE:"
4780 PRINT@ 130, "(1) LINE-BY-LINE"
4790 PRINT@ 162, "      OUTPUT TO SCREEN"
4800 PRINT@ 226, "(2) CONTINUOUS"
4810 PRINT@ 258, "      OUTPUT TO PRINTER"
4820 A$=INKEY$
4830 IF A$="" GOTO 4820
4840 IF A$="1" GOTO 5100
4850 IF A$="2" GOTO 6070
4860 PRINT@ 388, "(PLEASE PRESS 1 OR 2)"
4870 GOTO 4820
4880 '
5000 '*****
5010 '*
5020 '* LINE-BY-LINE
5030 '* OUTPUT TO SCREEN
5040 '*
5050 '* X$ = LINE OF TEXT
5060 '*      INPUT FROM FILE
5070 '*
5080 '*****
5090 '
5100 CLS
5110 PRINT
5120 PRINT "  PRESS ANY KEY TO BEGIN, AND"
5130 PRINT "  ANY KEY AFTER EACH LINE OF"
5140 PRINT "  OUTPUT TO THE SCREEN."
5150 PRINT
5160 A$=INKEY$
5170 IF A$="" GOTO 5160
5180 PRINT G$
5190 PRINT
5200 LINE INPUT #1, X$
5210 PRINT X$
5220 A$=INKEY$
5230 IF A$="" GOTO 5220
5240 'GO IF THERE IS MORE DATA IN FILE

```

```

5250 IF EOF(1)=0 GOTO 5200
5260 PRINT
5270 PRINT "END OF FILE"
5280 GOTO 9160
5290 '
6000 '*****
6010 '*
6020 '* CONTINUOUS
6030 '* OUTPUT TO PRINTER
6040 '*
6050 '*****
6060 '
6070 CLS
6080 PRINT
6090 PRINT "  READY THE PRINTER, AND"
6100 PRINT "  PRESS ANY KEY TO BEGIN"
6110 PRINT "  PRINTING."
6120 PRINT
6130 A$=INKEY$
6140 IF A$="" GOTO 6130
6150 PRINT#-2, G$
6160 PRINT#-2, " "
6170 LINE INPUT #1, X$
6180 PRINT#-2, X$
6190 'GO IF THERE IS MORE DATA IN FILE
6200 IF EOF(1)=0 GOTO 6170
6210 PRINT#-2, " "
6220 PRINT#-2, "END OF FILE"
6230 PRINT
6240 PRINT "END OF FILE"
6250 GOTO 9160
6260 '
9120 '* CLOSE AND EXIT
9130 '*
9140 '*****
9150 '
9160 'CLOSE THE FILE
9170 CLOSE #1
9180 'RESET THE DRIVE
9190 DRIVE 0
9900 '*****
9910 '*
32767 END

```

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