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DECUS NO.	8-184
TITLE	PAGE ROUTINE
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DATE	March 23, 1969
SOURCE LANGUAGE	PAL III

PAGE ROUTINE

DECUS Program Library Write-up DECUS No. 8-184

INTRODUCTION

Page Routine sets-up into pages, ASCII listings of program and sequentially numbers the pages. The output can be a listing on the Teletype and/or punched tape.

PROGRAM COMMUNICATION

The program calls a subroutine ASC for binary to BCD Conversion and subroutine TYP for output.

PROGRAM DESCRIPTION

The program sets-up a row of dots across the page and six blank lines. It then reads in an ASCII tape ignoring blank tape and leader 200 code. When a character greater than 200 is found a flag is set so that blank tape or trailer will be recognized. A character is read and output on the Teletype. If a carriage return character is found the line counter is incremented and, if a page is full the page counter is incremented. At the end of a page, two blank lines are left, the page number is typed, three blank lines left, and a line of dots typed.

If blank tape or trailer 200 code is found the remainder of the page being listed is left blank, the page numbered and a row of dots is printed at the bottom. The program then halts. If the continue button is pressed further tape is read and the page numbering continues from the current page number. If the program is restarted the page counter is returned to zero.

OPERATION

Set-up the starting address at 200 and press LOAD ADDRESS and START. Load the ASCII tape to be read into the reader if a tape is required turn on the punch.

When the tape has been read the program halts. If the next tape is to follow in the same page sequence load this tape and press CONTINUE. If the tape to be read is to be listed starting with a new sequence of page numbers start the program by setting up its starting address and press LOAD ADDRESS and START.

The program is limited to a maximum of 99 pages.

To alter length of page change value of LNCT and LNCTS. (Note these are negative numbers).

```
                    /PAGINATION ROUTINE PGE
                    /ISSUE P
                    /P WEIL  24TH. MARCH 1969
0200  6032  PGE01,  KCC
0201  6046        TLS
0202  1367        TAD DOTCTS      /INITIALISE DOT COUNTER
0203  3366        DCA DOTCT
0204  3362        DCA PGECT       /ZERO PAGE COUNTER
0205  4336        JMS PGE09       /INITIALISE ALL LINE COUNTERS
0206  3360        DCA STFLG       /RESET FLAG
0207  7300  PGE02, CLA CLL
0210  1364        TAD CRCD        /SET UP CARRIAGE RETURN
0211  4751        JMS I LTYP
0212  1365        TAD DOT         /SET UP DOT
0213  4751        JMS I LTYP
0214  2366        ISZ DOTCT       /IS NOW OF DOTS TYPED ?
0215  5212        JMP .-3         /NO
0216  1367  PGE03, TAD DOTCTS     /YES
0217  3366        DCA DOTCT
0220  1364        TAD CRCD
0221  4751        JMS I LTYP
0222  1363        TAD LFCD
0223  4751        JMS I LTYP
0224  2352        ISZ LFCT1       /ALL BLANK LINES AT TOP OF PG. OF ?
0225  5222        JMP .-3         /NO
0226  6031  PGE06, KSF           /YES   READ ONE CHAR
0227  5226        JMP .-1
0230  6036        KRB
0231  3361        DCA PGEBUF      /BUFFER CHAR.
0232  1360        TAD STFLG       /IS STFLG SET
0233  7650        SNA CLA
0234  5275        JMP PGE07       /NO
0235  1361        TAD PGEBUF      /YES
0236  7450        SNA             /IS PGEBUF 0 ?
0237  5306        JMP PGE05       /YES
0240  1370        TAD M200        /NO CHECK IF 200
0241  7450        SNA
0242  5306        JMP PGE05       /IS 200
0243  1371        TAD M15         /NOT 200 IS CHAR CR ?
0244  7640        SZA CLA
0245  5303        JMP PGE08       /NO
0246  2374        ISZ LNCT        /YES  IS IT END OF PG. ?
0247  5303        JMP PGE08       /NO
0250  1361        TAD PGEBUF      /YES  TYPE CR
0251  4751        JMS I LTYP
0252  6031        KSF
0253  5252        JMP .-1         /READ LF
0254  6036        KRB
0255  4751        JMS I LTYP
0256  1363        TAD LFCD
0257  4751        JMS I LTYP
0260  2354        ISZ LFCT2       /CORRECT NO. OF LINES BEFORE
                                  /PAGE NO. ?
0261  5256        JMP .-3         /NO
0262  2362        ISZ PGECT
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```
0263  1362          TAD PGECT      /SET UP NO. FOR OP
0264  4750          JMS I LASC
0265  1364          TAD CRCD
0266  4751          JMS I LTYP
0267  1363          TAD LFCD
0270  4751          JMS I LTYP
0271  2356          ISZ LFCT3      /CORRECT NO OF LINES AFTER
                                   /PAGE NO. ?
0272  5267          JMP .-3        /NO
0273  4336          JMS PGE09      /YES  RESET ALL LINE COUNTERS
0274  5207          JMP PGE02      /RETURN FOR NEXT PAGE
0275  1361  PGE07,  TAD PGEBUF
0276  1370          TAD M200       /IS CHAR > 200 ?
0277  7750          7750           / THIS IS EQUIV TO SPA SNA CLA
0300  5226          JMP PGE06      /NO
0301  7201          CLA IAC
0302  3360          DCA STFLG      /YES SET STFLG
0303  1361  PGE08,  TAD PGEBUF
0304  4751          JMS I LTYP     /OUTPUT A CHAR
0305  5226          JMP PGE06
0306  1355  PGE05,  TAD LFCTS2     /SET UP TO PRODUCE CORRECT
                                   /NO. OF BLANK LINES ON PG.
0307  1372          TAD LNCT
0310  3372          DCA LNCT
0311  1363          TAD LFCD
0312  4751          JMS I LTYP
0313  2372          ISZ LNCT       /CORRECT NO OF BLANK OP ?
0314  5311          JMP .-3        /NO
0315  2362          ISZ PGECT      /YES
0316  1362          TAD PGECT
0317  4750          JMS I LASC
0320  1364          TAD CRCD
0321  4751          JMS I LTYP
0322  1363          TAD LFCD
0323  4751          JMS I LTYP
0324  2356          ISZ LFCT3      /ALL LF BELOW NO. GONE ?
0325  5322          JMP .-3        /NO
0326  1365          TAD DOT.       /YES SET UP ROW OF DOTS
0327  4751          JMS I LTYP
0330  2366          ISZ DOTCT
0331  5326          JMP .-3
0332  4336          JMS PGE09
0333  3360          DCA STFLG      /CLEAR FLAG
0334  7402          HLT
0335  5216          JMP PGE03
0336  7402  PGE09,  HLT            /THIS ROUTINE INITIALISES
0337  1373          TAD LNCTS      /LINE COUNTERS
0340  3372          DCA LNCT
0341  1353          TAD LFCTS1
0342  3352          DCA LFCT1
0343  1355          TAD LFCTS2
0344  3354          DCA LFCT2
0345  1357          TAD LFCTS3
0346  3356          DCA LFCT3
0347  5736          JMP I PGE09
      /DATA
```

```
0351  0431  LTYP,   TYP
0352  7772  LFCT1,  -6
0353  7772  LFCTS1, -6
0354  7776  LFCT2,  -2
0355  7776  LFCTS2, -2
0356  7775  LFCT3,  -3
0357  7775  LFCTS3, -3
0360  0000  STFLG,  0
0361  0000  PGEBUF, 0
0362  0000  PGECT,  0
0363  0212  LFCD,   212
0364  0215  CRCD,   215
0365  0256  DOT,    256
0366  7670  DOTCT,  -110
0367  7670  DOTCTS, -110
0370  7600  M200,   -200
0371  7763  M15,    -15
0372  7710  LNCT,   -70
0373  7710  LNCTS,  -70


              *400
0400  7402  ASC,    HLT
0401  3247         DCA ASCBUF
0402  1246         TAD CRCHR
0403  4231         JMS TYP
0404  1244         TAD SPCTS
0405  3243         DCA SPCT        /SET UP SPACE COUNTER
0406  1245         TAD SPACE
0407  4231         JMS TYP
0410  2243         ISZ SPCT        /ALL SPACE OP?
0411  5206         JMP .-3         /NO
0412  3242         DCA TENCT       /CLEAR TENS COUNTER
0413  1247         TAD ASCBUF      /RELOAD CHAR FOR CONVERSION
0414  1241         TAD M10
0415  7510         SPA
0416  5221         JMP ASC01       /ALL TENS HAVE GONE
0417  2242         ISZ TENCT       /INCREMENT TENS COUNTER
0420  5214         JMP .-4
0421  3247  ASC01, DCA ASCBUF
0422  1242         TAD TENCT       /SET UP TO PRINT MOST SIG FIG
0423  1240         TAD K260
0424  4231         JMS TYP
0425  1247         TAD ASCBUF      /SET UP TO PRINT LEAST SIG FIG
0426  1237         TAD P272
0427  4231         JMS TYP
0430  5600         JMP I ASC
0431  7402  TYP,    HLT
0432  6041         TSF
0433  5232         JMP .-1
0434  6046         TLS
0435  7200         CLA
0436  5631         JMP I TYP
              /DATA
0437  0272  P272,  272
```

```
0440   [illegible]   [illegible],   [illegible]
0441   7750   410,   -1?   /-1( [illegible]
0442   0000   TANGT,   0
0443   7755   S: CT,   -[illegible]
0444   7724   S-CTS,   -[illegible]
0445   0240   SPACE,   [illegible]
0446   0215   CLOSE,   215
0447   0000   ASCFOF,   0
```

ASC	0400
[illegible]	0447
[illegible]	0421
[illegible]	0364
[illegible]	0446
[illegible]	0365
[illegible]	0366
[illegible]	0367
[illegible]	0350
[illegible]	0363
[illegible]	0353
[illegible]	0355
[illegible]	0357
[illegible]	0352
[illegible]	0354
[illegible]	0356
[illegible]	0372
[illegible]	0373
[illegible]	0351
[illegible]	0441
[illegible]	0371
[illegible]	0370
[illegible]	0361
[illegible]	0362
[illegible]	0200
[illegible]	0207
[illegible]	0216
[illegible]	0306
[illegible]	0226
[illegible]	0275
[illegible]	0303
[illegible]	0336
[illegible]	0440
[illegible]	0437
SPACE	0445
SPCT	0443
SPCTS	0444
STFLG	0360
TENCT	0442
TYP	0431