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PROGRAM LIBRARY

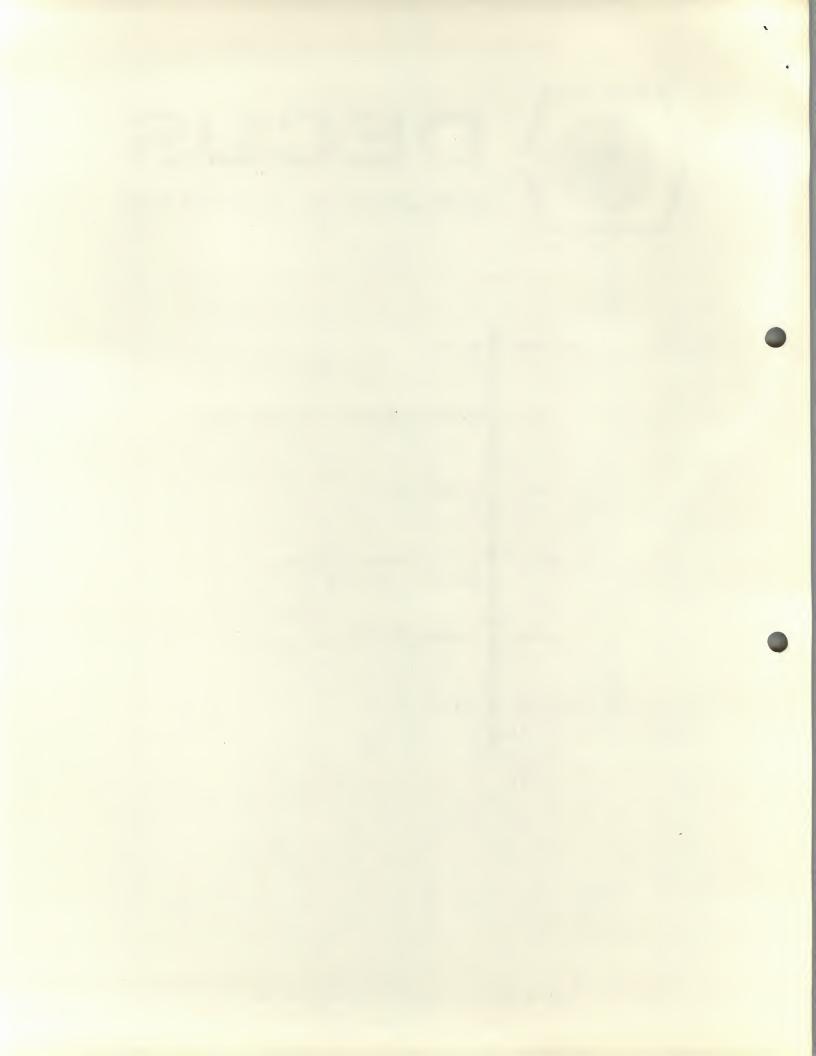|	
DECUS NO.	8-404
TITLE	OCTAL MEM DUMP - EXTENDED MEMORY
AUTHOR	Andres T. Siy
COMPANY	Capitol Institute of Technology Kensington, Maryland
DATE	December 27, 1970
SOURCE LANGUAGE	PAL III

ABSTRACT

The major objective of this program is similar to
Digital-8-6-U, to dump on teletype the octal memo-
ry contents of a certain prescribed memory block/
blocks. The added modifications are;

    (a) A CDF instruction: To allow the user
         to dump contents from any field with-
         out restarting the program.

    (b) Tab routine: Will tab ten spaces be-
         fore any printing or dumping into a
         a new line.

    (c) ASCII characters typing routine: Will
         permit the user to type a line of head-
         ing or title.

    (d) After ten blank spaces an absolute add-
         ress will be typed, then followed by
         the octal contents of the first eight
         words. This process repeats until the
         block is exhausted.

The user may dump the octal contents of the next
block from the same field or the next field.

REQUIREMENTS

Storage

This program will occupy memory locations 7400-7561.
A total of 114 (decimal) core locations.

Equipment

Basic 4K and/Extended Memory PDP-8 with ASR-33
Teletype. Output is obtained from the teletype.

LOADING PROCEDURES

This program is loaded by means of the Binary
Loader. See DEC-08-LBAA-D.

OPERATING PROCEDURES

1. Load program by the BIN loader.

2. Set SR=7400, hit LOAD ADDRESS and START.
    Program will halt.

3. Set SR(Bits 6-8)=Memory Field of block whose
    octal contents are to be dumped, then press
    CONTINUE.

4. Set SR=Initial Address of block and press
    CONTINUE.

5. Set SR=Final Address of block and press
    CONTINUE.

6. Teletype will CR, LF and tab ten spaces. The
    program is now waiting for the user to type
    a line of heading if he wishes to do so,
    otherwise type carriage RETURN.

7. The program will immediately commenced dump-
    ing out the requested memory contents, until
    the block is exhausted. To dump contents of
    the next block repeat steps 3 to 6.

PROGRAM LISTING

A listing of the program is attached.

```
            *7400

                        /"OCTAL MEM DUMP"-EXTENDED MEMORY
                        /
                        /ANDRES T. SIY
                        /CAPITOL INSTITUTE OF TECHNOLOGY
                        /KENSINGTON, MD. 20795
                        /DEC.27'78
                        /
                        /
7400    7402    ODUM,   HLT     /SR(6-8)= MEM FIELD OF BLOCK TO BE DUMP.
7401    7604            LAS
7402    0356            AND MASK/3
7403    3350            DCA FLD
7404    1351            TAD XFLD
7405    1350            TAD FLD
7406    3207            DCA .+1
7407    0000            0
7410    7402            HLT             /SR=INIT. ADDR
7411    7604            LAS
7412    3276            DCA LOCK        /SAVE INIT. ADDR
7413    7402            HLT
7414    7604            LAS             /SR=FINAL ADDR
7415    7040            CMA
7416    1276            TAD LOCK
7417    3277            DCA LIM         /INITIALIZE RANGE COUNTER
7420    7300    ACCEPT, CLA CLL
7421    4265            JMS CRLF
7422    4342            JMS LISN
7423    7041            CIA
7424    1304            TAD CONS+1      /TERMINATE HEADING &
7425    7640            SZA CLA         /BEGIN DUMPING.
7426    5222            JMP .-4
7427    5232            JMP .+3
7430    2300    DUM2,   ISZ LPCN                /END OF LINE
7431    5245            JMP DUM3
7432    1307            TAD CONS+4              /-8
7433    3300            DCA LPCN               /RESET ITEM COUNTER
7434    4265            JMS CRLF               /CARR. RET. AND LINE FEED
7435    1276            TAD LOCK
7436    4702            JMS I PRIN             /INTER-COM. TO PNUM
7437    1306            TAD CONS+3             /-4
7440    3265            DCA CRLF
7441    1305            TAD CONS+2             /240 (SPACE)
7442    4257            JMS TYPN
7443    2265            ISZ CRLF
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7444   5241          JMP  .-3
7445   7200   ODM3,  CLA
7446   1676          TAD I LOCK
7447   4702          JMS I PRIN          /INTER-COM. TO PNUM
7450   1305          TAD CONS+2          /240 (SPACE)
7451   4257          JMS TYPN
7452   2276          ISZ LOCK            /INDEX LOCATION POINTER
7453   2277          ISZ LIM             /END OF RANGE
7454   5230          JMP DUM2
7455   4265          JMS CRLF
7456   5200          JMP ODUM            /GO AGAIN
7457   0000   TYPN,  0                   /TYPE CHARACTER SUBROUTINE
7460   6046          TLS
7461   6041          TSF
7462   5261          JMP  .-1
7463   7200          CLA
7464   5657          JMP I TYPN
7465   0000   CRLF,  0                   /CR AND LF SUBROUTINE
7466   7200          CLA
7467   1304          TAD CONS+1          /215 (CARR. RET.)
7470   4257          JMS TYPN
7471   1303          TAD CONS            /212 (LINE FEED)
7472   4257          JMS TYPN
7473   1310          TAD CONS+5
7474   4333          JMS TAB
7475   5665          JMP I CRLF
7476   0000   LOCK,  0
7477   0000   LIM,   0
7500   0000   LPCN,  0
7501   0000   KTAB,  0
7502   7511   PRIN,  PNUM                /INTER-COM. TO PNUM
7503   0212   CONS,  212                 /CONSTANTS
7504   0215          215
7505   0240          240
7506   7774          7774
7507   7770          7770
7510   7766          7766
7511   0000   PNUM,  0                   /PRINT NUMBER SUBROUTINE
7512   3354          DCA PTEM
7513   1357          TAD PCON            /7774
7514   3353          DCA DCN             /INITIALIZE DIGIT COUNTER
7515   1354          TAD PTEM
7516   7004          RAL
7517   7004   PNU2,  RAL
7520   7006          RTL
7521   3354          DCA PTEM
7522   1354          TAD PTEM
7523   0360          AND PCON+1          /7
7524   1361          TAD PCON+2          /260
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7525    4755            JMS  I TDIT            /TYPN (TYPE A DIGIT)
7526    1354            TAD  PTEM
7527    2353            ISZ  DCN
7530    5317            JMP  PNU2
7531    7200            CLA
7532    5711            JMP  I PNUM
7533    0000    TAB,    0                       /TAB TEN SPACES BEFORE DUMPING.
7534    3301            DCA  KTAB
7535    1305            TAD  CONS+2
7536    4257            JMS  TYPN
7537    2301            ISZ  KTAB
7540    5335            JMP  .-3
7541    5733            JMP  I TAB
7542    0000    LISN,   0
7543    6031            KSF
7544    5343            JMP  .-1
7545    6036            KRB
7546    6046            TLS
7547    5742            JMP  I LISN
7550    0000    FLD,    0
7551    6201    XFLD,   CDF
7552    0000    CHAR,   0
7553    0000    DCN,    0                       /DIGIT COUNTER
7554    0000    PTEM,   0
7555    7457    TDIT,   TYPN
7556    0070    MASK70, 70
7557    7774    PCON,   7774
7560    0007            7
7561    0260            260
```

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SAMPLE "OCTAL MEM DUMP-EXTENDED MEMORY"
7400      7402 7604 0356 3350 1351 1350 3207 6211
7410      7402 7604 3276 7402 7604 7040 1276 3277
7420      7300 4265 4342 7041 1304 7640 5222 5232
7430      2300 5245 1347 3300 4265 1276 4702 1306
7440      3265 1305 4257 2265 5241 7200 1676 4702
7450      1305 4257 2276 2277 5230 4265 5200 7452
7460      6046 6041 5261 7200 5657 0000 7200 1304
7470      4257 1303 4257 1310 4333 5665 7476 7715
7500      7770 0030 7511 0212 0215 0240 7774 7770
7510      7766 7450 3354 1357 3353 1354 7304 7014
7520      7006 3354 1354 1360 1361 4755 1354 2353
7530      5317 7200 5711 7475 3301 1305 4257 2301
7540      5335 5733 7423 0031 5343 6036 6046 5742
7550      0400 6211 4044 3300 0400 7457 0070 7774
7560      0007 3261
```