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MCM TAPE TAPE-31.TXT

TAPE LABEL/ANNOTATIONS: "34 COMPRESS
                         35 EXPAND
                         1  BUI --- ???"
DATE CREATED: 1977(?)



GROUPS:
    0    1   34   35


NAMES IN GROUP 0:
F



    ∇F I
[1]   MOD[I;]←10ρ1⍞MOD[I;]
[2]   →1⌈ι0≠I←⍎1⍞⍕I←I+1
    ∇




NAMES IN GROUP 1:
BUI  BL   BLI  MOD  PSE  DAU  A



    ∇BUILD;FP;FO;NR;P;N;T;F;MO;I;TT;SCV
[1]   ⍝N - MONTH PARTS FLOW - CASH FLOW JUNE 14/77
[2]   BLI∘'GET BUILD SCHEDULE'
[3]   DR←(2,(1↑ρCCC),MO)ρ0∘N←'   '∘WID 130∘PAG PSI
[4]   LP:→PL⌈ι3=+/N=J[I;1 2 3]∘→END⌈ι0=ρ,I←PSEL
[5]   ⎕←''∘⎕←'SECTION TOTALS'∘⎕←''∘→NT⌈ι' '=1↑N
[6]   ⎕←2 0ρ''∘⎕←(2 12ρ'FROM INVEN. NEW ORDERS  '),10 2 0⍕.01×DR[;T;] .
[7]   NT:∘⍎((1↑PSI-12)<1↓⎕PCι0)/'NPG'∘T←''ρ(CCC ⎕ZZ SCA),1↑ρCCC∘SCV←'(3)=',N←J[I;1 2 3]
[8]   ⎕←''∘⎕←'SECTION ',CCC[T;],(27ρ' '),'ON     NEW' ∘⎕←(30ρ' '),'PARTS FLOW BY MONTH'
[9]   ⎕←'PART NO. INV. QTY       ',(,((5ρ1),5ρ0)\M[1+12|¯1+YMD[2]+ιMO;]),'ORDER   REQUIRED'
[10]   PL:FO←NR-FP←NR⌊0⌈(+/V[I;1 3])-¯1↓0,⌽+\⌽NR←BL+.×U[I;]
[11]   DR[;T;]←DR[;T;]+⌈(⌈/V[I;6 10]÷V[I;4])×(2,MO)ρFP,FO
[12]   ⎕←J[I;],(4⌽10⍕+/V[I;1 3]),10 BWZ FP
[13]   →LP∘⎕←(19ρ' '),10 BWZ FO,TT,0⌈(+/FO)-TT←V[I;2]
[14]   END:T←1∘INVS 9ρ'9'
[15]   PSL:→0×ι2=T∘NPG
[16]   ⎕←''∘⎕←(10ρ' '),'MONTHLY PRODUCTION SCHEDULE CASH FLOW SUMMARY   ',DATE
[17]   ⎕←''∘⎕←(10ρ' '),'VALUE OF MATERIALS ',(2 15ρ'FROM INVENTORY TO BE PURCHASED')[T;]
[18]   ⎕←''∘⎕←'SECTION',(43ρ' '),,((5ρ1),5ρ0)\M[1+12|¯1+YMD[2]+ιMO;]
[19]   ⎕←2 0ρ''∘⎕←(CCC),10 2 0⍕TT←DR[T;;]
[20]   →PSL∘T←2∘⎕←(40ρ' '),'TOTAL --- ',10 2 0⍕+⌿TT
    ∇


BL    [11 by 6 numeric array; element size 1 byte(s)]
25 5 0 0 0 0 0 0 0 0 0
25 0 10 0 0 0 0 0 0 0 0
25 0 0 0 0 0 0 0 0 0 0
```

```
25 0 0 20 0 0 0 0 0 0 0
25 0 0 0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0 0 0 0




    ∇BLI;I
[1]   ⍝GET INPUT FOR BUILD FORCAST
[2]   I←0∘MO←DNU'NUMBER OF MONTHS ?'∘P∆←⍕1↓ρBL←⍉BL
[3]   BL[;1↓ρBL]←0∘BL←1⌽BL∘→NNM⌈ι'Y'≠1↑DAU'NEW MONTH ?'∘P∆←'YES'
[4]   NNM:→OK∘BL←((255,MO)⌊ρBL)↑BL∘→EPM⌈ιMO>1↓ρBL
[5]   EPM:BL←BL,((0,M0)⌈ρBL)ρ0
[6]   OK:→END⌈ι(1↑ρBL)<I←I+1
[7]   →OK∘BL[I;]←DNU MOD[I;]∘P∆←⍕BL[I;]
[8]   END:BL←⍉BL
    ∇

MOD   [10 by 11 array of type char; element size 1 byte(s)]
MCM/800
4K OPTION
8K OPTION
16K OPTION
EIA OPTION
220 OPTION
ATU 100
DDS 110V
DDS 220V
MCP 132
OTHER



    ∇Z∆←PSELECT;N
[1]   ⍝SELECT ITEMS FROM WHERE USED FILE
[2]   BLOCK←,0∘→LP⌈ι0≠⎕NC'BLOCK'
[3]   LP:→END⌈ι(1↑ρMID)≤BLOCK←BLOCK+1∘⎕EX'J D V'∘LG[;]←' '∘→EXIT⌈ι1<ρBLOCK
[4]   →LP⌈ι1≥ρBLOCK←((0≠+/U)/ι1↑ρU),BLOCK∘⎕EX N∘⍎'U←',N∘30 ⎕XR[2]
N←'U',¯2↑⍕100+BLOCK
[5]   ∘INVS MID[''ρ¯1↑BLOCK;] K'
[6]   EXIT:→0∘BLOCK←1↓BLOCK∘Z∆←''ρBLOCK
[7]   END:Z∆←ι0∘⎕EX'BLOCK'
    ∇



    ∇Z∆←DAU M∆
[1]   ⍝      Z∆←DAU M∆      JUN 15/77
[2]   ⍝Z∆ IS KEYBOARD INPUT PRESET TO P∆,
[3]   ⍝PROMPTED WITH M∆
[4]   Z∆←(ρM∆)↓(1+ρM∆)⍞M∆,P∆
    ∇

A     [4 by 5 array of type char; element size 1 byte(s)]
BUI
BL
BLI
MOD
PSEL
```

```
NAMES IN GROUP 34:
CM1  CM2  CM3  Z_   CP1  CP2  CP3  GPΔ


    ∇CM1
[1]   ∗COMPRESS   (CPΔ)      JUNE 1977
[2]   ∗R←A ⎕ZZ CPΔ  COMPRESS BLANKS IF CARACTER, ZEROS IF NUMERIC
[3]   ∗R←A ⎕ZZ[N]CPΔ COMPRESS BYTE(S) N FROM DATA
[4]    BZ SYNTAX
[5]    LAS  WORKA ⍝RETURN IF 700
[6]    XR 0
[7]    JNZ TEST
[8]    OR Z
[9]    BNZ SYNTAX ⍝IF BAD 800
[10]   TEST CLS DATATYPA
[11]    CI X'11'
[12]    JE OK
[13]    CI 9
[14]    BNC SYNTAX ⍝A MUST BE ALPHA 1 OR NUMERIC
[15]   OK CLS LPTRA
[16]    HLPUSH
[17]    CLS DATALEN
[18]    LR 0,1
[19]    OR 2
[20]    JZ NOCMP ⍝EXIT - NOCOMPRESS IF A EMPTY
[21]    HLPOP
[22]    LR 0,L
[23]    AR 2
[24]    LR L,0
[25]    LR 0,H
[26]    ARC 1
[27]    LR H,1
[28]    IADD
[29]    HLPUSH ⍝END + 1 ADDRESS
[30]    EX34HL
[31]    CLS LPTRA
[32]    DADD
[33]    L 0 ⍝RANK
[34]    AI 5
[35]    LR L,0
[36]    LI H,0 ⍝START LENGTH FOR HEADER JUNK
[37]    HLPUSH
[38]    CL CMPBYTE ⍝GET BYTE TO SHRINK OUT E
[39]    CLS LPTRA E
[40]   ∗LOOP TO CALCULATE LENGTH FOR RESULT
[41]   CPICK CL PICK
[42]    JZ GOTLEN
[43]    LR 0,2
[44]    LI 2,0
[45]    JNS CDATA ⍝IT WAS A FILL CONT
[46]    NI X'7F'
[47]    LR 2,0
```

```
[48]   CDATA HLADD
[49]    CSPUSH ⍝→R
[50]    HLPOP
[51]    LR 0,2
[52]    IR A
[53]    HLADD
[54]    HLPUSH ⍝ADD TO COUNT
[55]    CSPOP
[56]    J CPICK
[57]   ∗HAVE THE LENGTH
[58]   GOTLEN HLPOP
[59]    LR 0,3 F
[60]    CR H
[61]    JC NOCMP ⍝COMPRESSED IS LONGER THEN ORIGINAL
[62]    JNE CMP
[63]    LR 0,4 F
[64]    SR L
[65]    JS NOCMP
    ∇


    ∇CM2
[1]   CMP LR 1,H
[2]    LR 2,L
[3]    CLS R12M4
[4]    CL SR
[5]    CL SR ⍝DIVIDE BY 4 - ALPHA 4
[6]    LI H,1
[7]    JZ BLDIT
[8]   ML IR H
[9]    CL SR
[10]    JNZ ML
[11]   BLDIT LR 1,H
[12]    LAS OUTPUT
[13]    MVI X'14' ⍝ALPHA 4
[14]    IR H
[15]    ST 2 ⍝COLUMN COUNT
[16]    IR H
[17]    ST 1 ⍝ROW COUNT
[18]    IR H
[19]    MVI 2 ⍝RANK
[20]    IR H
[21]    HLPUSH ⍝FOR BUILDS
[22]    CL BUILDS
[23]    EX34HL
[24]    CL CMPBYTE ⍝COMPRESS BYTE IN R1
[25]    CLS LPTRA
[26]    DADD
[27]    L 2
[28]    IR 2
[29]    LR 0,2
[30]    CLS HLSUB ⍝POINT TO TYPE
[31]    EX34HL
[32]    IR 2
[33]    IR 2
[34]    LR 0,2
```

```
[35]    IR A
[36]    ST A ⍝POINTER TO RANK
[37]    IADD
[38]    J MVLS
[39]   =
[39]   NOCMP CLS LPTRA ⍝COMPRESS NOT NECESSARY
[40]    EX34HL
[41]    CLS PTRL
[42]    ST 3
[43]    IADD
[44]    ST 4
[45]   DONE HLPOP
[46]    R
[47]   ∗LOOP TO COMPRESS DATA
[48]   PNF CL PICK
[49]    EX34HL
[50]    CSPOP
[51]    ST 2
[52]    IADD
[53]    LR 0,2
[54]    NI X'7F'
[55]    JZ DONE
[56]    CR 2
[57]    JNE MVD ⍝GO MOVE DATA
[58]    CSPUSH ⍝RESTORE →R
[59]    HLGET
[60]    EX34HL
[61]    LR 0,2
[62]    HLADD
[63]    J PNF
[64]   MVD LR 2,0
[65]   MVL EX34HL
[66]    L 1 L
[67]    IADD
[68]    EX34HL
[69]   MVLS ST 1
[70]    IADD
[71]   DR 2 JNZ MVL
[72]    CSPUSH
[73]    CLS LPTRR
[74]    IADD
[75]    L 1 ⍝RESTORE COMPRESS BYTE
[76]    HLGET
[77]    EX34HL
[78]    J PNF
    ∇


    ∇CM3
[1]   ∗BYTE PICKER
[2]   ∗ON ENTRY  H,L START ADDRESS
[3]   ∗          3,4 END +1  ADDRESS
[4]   ∗          FILL CHARACTER
[5]   ∗ON EXIT   1 H,L 3,4 UNCHANGED
[6]   ∗          2 COUNT 1-127 FILL, 129 255 DATA, 0 DONE
[7]   ∗          CC ZERO ←→ DONE
```

```
*             SIGN ←→ DATA
*             NOT ZERO ←→ FILL
 PICK HLPUSH
  CL LTOEND
  LR 2,0 ⍝127⌊NUMBER OF BYTES TO END
  JE END
  IR 2
 NOTEND DR 2
  JE END
  L 0
  IADD
  CR 1
  JE NOTEND
  CSPUSH
  HLGET
  CL LTOEND
  SR 2
  CI 3 ⍝MUST BE 3 FILL'S BEFORE COMPRESSION
  CSPOP
  JNC END
  IR 2
 DCOUNT DR 2
  JZ DEND
  L 0
  IADD
  CR 1
  JNE DCOUNT
  LR 0,2
  CI 3 ⍝MUST BE AT LEAST 2 BYTES REMAINING
  JC DCOUNT
  L 0
  CR 1  _
  JNE DCOUNT
  IADD
  L 0
  DADD
  CR 1
  JNE DCOUNT
 DEND CL END  L
  OI X'80'
  LR 2,0
  R
 END HLPOP
  CL LTOEND
  SR 2
  LR 2,0
  R ⍝CC = SIGN ∧ NOT ZERO
 *FIND COMPRESSION BYTE
 CMPBYTE CLS LOPINDX N
  LR 1,0
  RNZ ⍝GOT IT FROM OPINDX
  CLS DATAYTPA
  CI X'11'
  RNE ⍝EXIT WITH R1=0
  LI 1,39 ⍝SPACE ⍀
  R
```

```
[64]   *SHIFT 1,2 RIGHT (÷2)
[65]   SR LR 0,1
[66]    SRL
[67]    LR 1,0 P
[68]    LR 0,2
[69]    SRA
[70]    LR 2,0 9
[71]    LR 1,0
[72]    OR 0
[73]    R
[74]   *RESULT   R0←127⌊LENGTH_TO_END
[75]   LTOEND LR 0,3
[76]    SR H
[77]    JNE LEND
[78]    LR 0,4
[79]    SR L
[80]    RNS
[81]   LEND LI 0,120
[82]    R
    ∇

Z_    [4 by 4 array of type char; element size 1 byte(s)]
CM1
CM2
CM3
CPΔ




    ∇CP1
[1]   *COMPRESS   (CPΔ)      JUNE 1977
[2]   *R←A ⎕ZZ CPΔ  COMPRESS BLANKS IF CARACTER, ZEROS IF NUMERIC
[3]   *R←A ⎕ZZ[N]CPΔ COMPRESS BYTE(S) N FROM DATA
[4]    BZ SYNTAX
[5]    LAS  WORKA ⍝RETURN IF 700
[6]    XR 0
[7]    JNZ TEST
[8]    OR Z
[9]    BNZ SYNTAX ⍝IF BAD 800
[10]   TEST CLS DATATYPA
[11]    CI X'11'
[12]    JE OK
[13]    CI 9
[14]    BNC SYNTAX ⍝A MUST BE ALPHA 1 OR NUMERIC
[15]   OK CLS LPTRA
[16]    HLPUSH
[17]    CLS DATALEN
[18]    LR 0,1
[19]    OR 2
[20]    JZ NOCMP ⍝EXIT - NOCOMPRESS IF A EMPTY
[21]    HLPOP
[22]    LR 0,L
[23]    AR 2
[24]    LR L,0
[25]    LR 0,H
[26]    ARC 1
```

```
[27]    LR H,1
[28]    IADD
[29]    HLPUSH ⍝END + 1 ADDRESS
[30]    EX34HL
[31]    CLS LPTRA
[32]    DADD
[33]    L 0 ⍝RANK
[34]    AI 5
[35]    LR L,0
[36]    LI H,0 ⍝START LENGTH FOR HEADER JUNK
[37]    HLPUSH
[38]    CL CMPBYTE ⍝GET BYTE TO SHRINK OUT E
[39]    CLS LPTRA E
[40]   ∗LOOP TO CALCULATE LENGTH FOR RESULT
[41]   CPICK CL PICK
[42]    JZ GOTLEN
[43]    LR 0,2
[44]    LI 2,0
[45]    JNS CDATA ⍝IT WAS A FILL CONT
[46]    NI X'7F'
[47]    LR 2,0
[48]   CDATA HLADD
[49]    CSPUSH ⍝→R
[50]    HLPOP
[51]    LR 0,2
[52]    IR A
[53]    HLADD
[54]    HLPUSH ⍝ADD TO COUNT
[55]    CSPOP
[56]    J CPICK
[57]   ∗HAVE THE LENGTH
[58]   GOTLEN HLPOP
[59]    LR 0,3 F
[60]    CR H
[61]    JC NOCMP ⍝COMPRESSED IS LONGER THEN ORIGINAL
[62]    JNE CMP
[63]    LR 0,4 F
[64]    SR L
[65]    JS NOCMP
    ∇


    ∇CP2
[1]   CMP LR 1,H
[2]    LR 2,L
[3]    CLS R12M4
[4]    CL SR
[5]    CL SR ⍝DIVIDE BY 4 - ALPHA 4
[6]    LI H,1
[7]    JZ BLDIT
[8]   ML IR H
[9]    CL SR
[10]    JNZ ML
[11]   BLDIT LR 1,H
[12]    LAS OUTPUT
[13]    MVI X'14' ⍝ALPHA 4
```

```
[14]    IR H
[15]    ST 2 ⍝COLUMN COUNT
[16]    IR H
[17]    ST 1 ⍝ROW COUNT
[18]    IR H
[19]    MVI 2 ⍝RANK
[20]    IR H
[21]    HLPUSH ⍝FOR BUILDS
[22]    CL BUILDS
[23]    EX34HL
[24]    CL CMPBYTE ⍝COMPRESS BYTE IN R1
[25]    CLS LPTRA
[26]    DADD
[27]    L 2
[28]    IR 2
[29]    LR 0,2
[30]    CLS HLSUB ⍝POINT TO TYPE
[31]    EX34HL
[32]    IR 2
[33]    IR 2
[34]    LR 0,2
[35]    IR A
[36]    ST A ⍝POINTER TO RANK
[37]    IADD
[38]    J MVLS
[39]   =
[39]   NOCMP CLS LPTRA ⍝COMPRESS NOT NECESSARY
[40]    EX34HL
[41]    CLS PTRL
[42]    ST 3
[43]    IADD
[44]    ST 4
[45]   DONE HLPOP
[46]    R
[47]   *LOOP TO COMPRESS DATA
[48]   PNF CL PICK
[49]    EX34HL
[50]    CSPOP
[51]    ST 2
[52]    IADD
[53]    LR 0,2
[54]    NI X'7F'
[55]    JZ DONE
[56]    CR 2
[57]    JNE MVD ⍝GO MOVE DATA
[58]    CSPUSH ⍝RESTORE →R
[59]    HLGET
[60]    EX34HL
[61]    LR 0,2
[62]    HLADD
[63]    J PNF
[64]   MVD LR 2,0
[65]   MVL EX34HL
[66]    L 1 L
[67]    IADD
[68]    EX34HL
```

```
[69]   MVLS ST 1
[70]    IADD
[71]   DR 2 JNZ MVL
[72]    CSPUSH
[73]    CLS LPTRR
[74]    IADD
[75]    L 1 ⍝RESTORE COMPRESS BYTE
[76]    HLGET
[77]    EX34HL
[78]    J PNF
    ∇


    ∇CP3
[1]   *BYTE PICKER
[2]   *ON ENTRY  H,L START ADDRESS
[3]   *          3,4 END +1  ADDRESS
[4]   *          FILL CHARACTER
[5]   *ON EXIT   1 H,L 3,4 UNCHANGED
[6]   *          2 COUNT 1-127 FILL, 129 255 DATA, 0 DONE
[7]   *          CC ZERO ←→ DONE
[8]   *             SIGN ←→ DATA
[9]   *             NOT ZERO ←→ FILL
[10]   PICK HLPUSH
[11]    CL LTOEND
[12]    LR 2,0 ⍝127⌊NUMBER OF BYTES TO END
[13]    JE END
[14]    IR 2
[15]   NOTEND DR 2
[16]    JE END
[17]    L 0
[18]    IADD
[19]    CR 1
[20]    JE NOTEND
[21]    CSPUSH
[22]    HLGET
[23]    CL LTOEND
[24]    SR 2
[25]    CI 3 ⍝MUST BE 3 FILL'S BEFORE COMPRESSION
[26]    CSPOP
[27]    JNC END
[28]    IR 2
[29]   DCOUNT DR 2
[30]    JZ DEND
[31]    L 0
[32]    IADD
[33]    CR 1
[34]    JNE DCOUNT
[35]    LR 0,2
[36]    CI 3 ⍝MUST BE AT LEAST 2 BYTES REMAINING
[37]    JC DCOUNT
[38]    L 0
[39]    CR 1  _
[40]    JNE DCOUNT
[41]    IADD
[42]    L 0
```

```
[43]    DADD
[44]    CR 1
[45]    JNE DCOUNT
[46]   DEND CL END  L
[47]    OI X'80'
[48]    LR 2,0
[49]    R
[50]   END HLPOP
[51]    CL LTOEND
[52]    SR 2
[53]    LR 2,0
[54]    R ⍝CC = SIGN ∧ NOT ZERO
[55]   ∗FIND COMPRESSION BYTE
[56]   CMPBYTE CLS LOPINDX N
[57]    LR 1,0
[58]    RNZ ⍝GOT IT FROM OPINDX
[59]    CLS DATAYTPA
[60]    CI X'11'
[61]    RNE ⍝EXIT WITH R1=0
[62]    LI 1,39 ⍝SPACE ⍀
[63]    R
[64]   ∗SHIFT 1,2 RIGHT (÷2)
[65]   SR LR 0,1
[66]    SRL
[67]    LR 1,0 P
[68]    LR 0,2
[69]    SRA
[70]    LR 2,0 9
[71]    LR 1,0
[72]    OR 0
[73]    R
[74]   ∗RESULT   R0←127⌊LENGTH_TO_END
[75]   LTOEND LR 0,3
[76]    SR H
[77]    JNE LEND
[78]    LR 0,4
[79]    SR L
[80]    RNS
[81]   LEND LI 0,120
[82]    R
    ∇

GPΔ   [vector of type char of length 37; element size 1 byte(s)]
COMPRESS (CPΔ) SOURCE, OBJECT AND ⎕ZZ



NAMES IN GROUP 35:
XP1  Z_   GPΔ



    ∇XP1
[1]   ∗EXPAND    (XPΔ)       JUNE 14/77
[2]   ∗EXPAND ALPHA 4 DATA COMPRESSED BY CPΔ
[3]    BX SYNTAX
[4]    LAS TEST ⍝RETURN IF 700
```

```
[5]    XR 0
[6]    JNZ TEST
[7]    OR 0
[8]    BNZ SYNTAX ⍝BAD 800
[9]   TEST CLS DATATYPA
[10]    CI X'14'
[11]    JNE NOEXP ⍝EXIT R←A
[12]    CLS LPTRA
[13]    L 0 ⍝POINTER TO OLD RANK
[14]    HLADD
[15]    HLPUSH
[16]    HLPUSH
[17]    CLS BUILDS
[18]    EX34HL ⍝→R
[19]    HLPOP ⍝→A
[20]   NF L 0 ⍝COUNT
[21]    IADD
[22]    NI X'7F'
[23]    RZ ⍝EXIT IF DONE
[24]    LR 2,0
[25]    C ⍝WAS DATA BIT ON?
[26]    JE FILL ⍝NO IT IS A FILL COUNT
[27]   DMOVE L 1
[28]    IADD
[29]    EX34HL
[30]    ST 1
[31]    IADD
[32]    EX34HL
[33]    DR 2
[34]    JNZ DMOVE
[35]    J NF
[36]   FILL CSPUSH ⍝INSERT FILL CHARACTER
[37]    CLS LPTRA
[38]    IADD
[39]    L 1 ⍝FILL CHARACTER L O
[40]    CSPOP
[41]    EX34HL
[42]   FMOVE ST 1
[43]    IADD
[44]    DR 2
[45]    JNZ FMOVE
[46]    EX34HL
[47]    J NF
[48]   ∗EXIT WITH R←A
[49]   NOEXP CLS LPTRA
[50]    EX34HL
[51]    CLS PTRL
[52]    ST 3
[53]    IADD
[54]    ST 4
[55]    R
    ∇

Z_    [4 by 2 array of type char; element size 1 byte(s)]
XP1
XPΔ
```

```
GPΔ   [vector of type char of length 35; element size 1 byte(s)]
EXPAND (XPΔ) SOURCE, OBJECT AND ⎕ZZ
```