```
     LOCN B1 B2 B3
                         *  CHOMP
                         *
                         *
                         *
                         *  PROGRAM COPYRIGHT (C) 1976 BY
                         *  TECHNICAL SYSTEMS CONSULTANTS
                         *  BOX 2574  W. LAFAYETTE IN.  47906
                         *
                         *     CHOMP IS SIMILAR TO A 2-DIMENSIONAL NIM
                         * GAME FOR TWO PLAYERS.  THE OBJECT OF INTEREST
                         * IS A LARGE COOKIE WITH 64 SECTIONS (8X8).  THE
                         * SECTIONS ARE NUMBERED LIKE A MATRIX WITH HORI-
                         * ZONTAL ROWS AND VERTICAL COLUMNS NUMBERED
                         * 1 TO 8.  SECTION 1,1 ;THE UPPER LEFT CORNER;
                         * IS A POISON SPOT IN THE COOKIE.  EACH
                         * PLAYER TAKES A TURN CHOMPING AT THE COOKIE
                         * BY SPECIFYING THE ROW,COLUMN OF HIS CHOMP.
                         * ALL THE COOKIE BELOW AND TO THE RIGHT OF THE
                         * CHOMP COORDINATE DISAPPEARS INCLUDING THE
                         * COORDINATE ITSELF.  THE OBJECT IS THEN, TO
                         * AVOID HAVING TO TAKE THE LAST CHOMP, THE
                         * POISON SECTION.  THE COMPUTER WILL PROMPT
                         * EACH PLAYER FOR HIS CHOMP BY 'PLAYER 1?'. OR
                         * 'PLAYER 2?' AT WHICH POINT THE APPROPRIATE
                         * PLAYER WILL ENTER THE ROW THEN THE COLUMN
                         * OF HIS CHOMP.  WHEN THE GAME IS OVER THE COM-
                         * PUTER WILL ASK 'PLAY AGAIN?'. THE APPROPRIATE
                         * RESPONSES ARE 'Y' FOR YES AND 'N' FOR NO.
                         *     THE STARTING ADDRESS OF THIS PROGRAM
                         * IS 0040.
                         *
                         *
                         *
                         *STORAGE
                                 ORG      $0020
     0020                COOKIE  RMB      8
     0028                TEMP    RMB      1
     0029                NUM     RMB      1
     002A                ROW     RMB      1
     002B                COL     RMB      1
     002C                CNT     RMB      1
                         *
                                 ORG      $A048
     A048 00 40                  FDB      BEGIN
                         *
                         * MAIN PROGRAM
                                 ORG      $0040
     0040 20 0F          BEGIN   BRA      START
     0042 7E E1 D1       OUTEEE  JMP      $E1D1    MIKBUG ROUTINES USED
     0045 7E E1 AC       INEEE   JMP      $E1AC    (MIKBUG IS A
     0048 7E E0 7E       PDATA1  JMP      $E07E    MOTOROLA TRADEMARK)
     004B 7E E0 CC       OUTS    JMP      $E0CC
     004E 7E E0 E3       CONTRL  JMP      $ECE3
                         *
     0051 8E A0 42       START   LDS      #$A042   SET SP FOR MULTIPLE ENTRY
     0054 BD 01 71               JSR      PCRLF    PRINT CRLF
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      LOCN B1 B2 B3
      0057 CE 01 E7                LDX      #NI8
      005A BD 00 48                JSR      PDATA1  PRINT INTRO STRING
      005D BD 01 71    MAIN        JSR      PCRLF
      0060 CE 01 7F                LDX      #HERE
      0063 BD 00 48                JSR      PDATA1  PRINT MESSAGE
      0066 86 FF                   LDA A    #$FF
      0068 CE 00 20                LDX      #COOKIE POINT TO COOKIE STORE
      006B A7 00     SETCH         STA A    0,X      SET COOKIE
      006D 08                      INX
      006E 8C 00 28                CPX      #COOKIE+8 COOKIE FINISHED?
      0071 26 F8                   BNE      SETCH
      0073 BD 01 1D                JSR      PRTCH    PRINT THE COOKIE
      0076 7F 00 29                CLR      NUM      SET FOR PLAYER #1
      0079 BD 00 AC   MLOOP        JSR      BITE     GET THE BITE
      007C 96 20      CHKCH        LDA A    COOKIE
      007E 26 24                   BNE      STILL    IF NOT ZERO, COOKIE LEFT
      0080 BD 01 71                JSR      PCRLF    PRINT CRLF
      0083 CE 01 A9                LDX      #PLAYER
      0086 BD 00 48                JSR      PDATA1   PRINT MESSAGE
      0089 96 29                   LDA A    NUM      GET PLAYER NUMBER
      008B 84 01                   AND A    #01      GET LSB
      008D 8B 31                   ADD A    #$31     ADD ASCII BIAS
      008F BD 00 42                JSR      OUTEEE   PRINT NUMBER
      0092 CE 01 B1                LDX      #LOSE
      0095 BD 00 48                JSR      PDATA1   PRINT MESSAGE
      0098 BD 00 45                JSR      INEEE    SEE IF PLAY AGAIN
      009B 81 4E                   CMP A    #'N
      009D 27 02                   BEQ      NO
      009F 20 BC                   BRA      MAIN
      00A1 7E 00 4E   NO          JMP      CONTRL
      00A4 BD 01 1D   STILL       JSR      PRTCH    PRINT THE COOKIE
      00A7 7C 00 29               INC      NUM      SET FOR NEXT PLAYER
      00AA 20 CD                  BRA      MLOOP
               *
               *SUBROUTINES
      00AC BD 01 71   BITE        JSR      PCRLF    PRINT CRLF
      00AF CE 01 A9               LDX      #PLAYER
      00B2 BD 00 48               JSR      PDATA1   PRINT MESSAGE
      00B5 96 29                  LDA A    NUM
      00B7 84 01                  AND A    #01      GET LSB
      00B9 8B 31                  ADD A    #$31     ADD ASCII BIAS
      00BB BD 00 42               JSR      OUTEEE   PRINT PLAYER NO.
      00BE 86 3F      PROMPT      LDA A    #'?
      00C0 BD 00 42               JSR      OUTEEE   PRINT A ?
      00C3 BD 00 4B               JSR      OUTS
      00C6 BD 00 45               JSR      INEEE    GET INPUT
      00C9 80 30                  SUB A    #$30
      00CB 23 04                  BLS      ERR
      00CD 81 08                  CMP A    #08
      00CF 23 08                  BLS      OK1
      00D1 CE 01 CB   ERR         LDX      #BAD
      00D4 BD 00 48               JSR      PDATA1   PRINT MESSAGE
      00D7 20 E5                  BRA      PROMPT   GET INPUT AGAIN
      00D9 97 2A      OK1         STA A    ROW      STORE ROW REQUEST
      00DB 86 2C                  LDA A    #',
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            LOCN B1 B2 B3
            00DD BD 00 42              JSR     OUTEEE   PRINT THE ,
            00E0 9D 00 45              JSR     INEEE    GET COL REQUEST
            00E3 80 30                 SUB A   #$30
            00E5 23 EA                 BLS     ERR      REMOVE BIAS ,CHECK
            00E7 81 08                 CMP A   #08      CHECK FOR OVERRANGE
            00E9 22 E6                 BHI     ERR
            00EB 97 2B                 STA A   COL      STORE COL REQUEST
            00ED CE 00 20              LDX     #COOKIE  POINT TO COOKIE
            00F0 96 2A                 LDA A   ROW      GET ROW REQUEST
            00F2 4A          DCRA      DEC A
            00F3 27 03                 BEQ     GOTROW   IF 0 GOT THE ROW
            00F5 08                    INX              PT TO NEXT ROW
            00F6 20 FA                 BRA     DCRA     DO AGAIN
            00F8 4F          GOTROW    CLR A
            00F9 D6 2B                 LDA A   COL      GET COL REQUEST
            00FB 0D                    SEC              SET CARRY FOR BIT MASK
            00FC 46          ROTA      ROR A            ROTATE IN THE MASK BIT
            00FD 5A                    DEC B            COUNT OFF ONE
            00FE 26 FC                 BNE     ROTA     DO UNTIL DONE
            0100 A5 00                 BIT A   0,X      MASK
            0102 26 0A                 BNE     GOOD     IF NOT ZERO, STILL COOKIE
            0104 8D 6B                 BSR     PCRLF
            0106 CE 01 CE              LDX     #NOCHES
            0109 BD 00 48              JSR     PDATA1   PRINT NO COOKIE MESSAGE
            010C 20 9E                 BRA     BITE     GET HIS INPUT AGAIN
            010E 48          GOOD      ASL A            SHIFT OVER
            010F 80 01                 SUB A   #1       CREATE COMP. MASK
            0111 43                    COM A            GET TRUE MASK
            0112 A4 00       EAT       AND A   0,X      EAT AWAY THE COOKIE
            0114 A7 00                 STA A   0,X      STORE IT BACK
            0116 08                    INX              POINT NEXT ROW
            0117 8C 00 28              CPX     #COOKIE+8
            011A 26 F6                 BNE     EAT
            011C 39                    RTS
                             *
                             *
            011D 8D 52       PRTCH     BSR     PCRLF
            011F CE 01 91              LDX     #NUMS
            0122 BD 00 48              JSR     PDATA1
            0125 CE 00 20              LDX     #COOKIE
            0128 86 31                 LDA A   #'1
            012A BD 00 42              JSR     OUTEEE
            012D BD 00 4B              JSR     OUTS
            0130 86 50                 LDA A   #'P
            0132 BD 00 42              JSR     OUTEEE   PRINT THE POISON SQUARE
            0135 BD 00 4B              JSR     OUTS
            0138 86 32                 LDA A   #'2
            013A 97 2C                 STA A   CNT
            013C A6 00                 LDA A   0,X      GET A ROW OF COOKIE
            013E 48                    ASL A
            013F C6 07                 LDA B   #07      SET COUNTER
            0141 20 0F                 BRA     INL001   JUMP INTO LOOP
            0143 C6 08       LOOP      LDA B   #08      SET LOOP CTR
            0145 96 2C                 LDA A   CNT
            0147 BD 00 42              JSR     OUTEEE
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       LOCN B1 B2 B3
       014A 7C 00 2C              INC     CNT
       014D BD 00 4B              JSR     OUTS
       0150 A6 00                 LDA A   0,X
       0152 97 28        INL001   STA A   TEMP      STORE TEMPORARILY
       0154 78 00 28     INLOOP   ASL     TEMP      SHIFT MSB OF ROW INTO CARRY
       0157 24 0B                 BCC     NXTLIN
       0159 86 2A        THERE    LDA A   #'*       IF COOKIE, LOAD A *
       015B BD 00 42     PRT      JSR     OUTEEE    PRINT THE CHARACTER
       015E BD 00 4B              JSR     OUTS
       0161 5A                    DEC B             ONE COL DONE
       0162 26 F0                 BNE     INLOOP
       0164 DF 2A        NXTLIN   STX     ROW       STORE X
       0166 8D 09                 BSR     PCRLF     PRINT CRLF
       0168 DE 2A                 LDX     ROW       RESTORE X
       016A 08                    INX
       016B 8C 00 28              CPX     #COOKIE+8
       016E 26 D3                 BNE     LOOP
       0170 39                    RTS
                        *
                        *
       0171 CE 01 78     PCRLF    LDX     #CRLF
       0174 BD 00 48              JSR     PDATA1    PRINT THE CRLF
       0177 39                    RTS
                        *
                        * STRINGS
       0178 0D           CRLF     FCB     $D,$A,0,0,0,0,4
       017F 48           HERE     FCC     !HERE'S THE COOKIE!
       0190 04                    FCB     4
       0191 20           NUMS     FCC     ;  1 2 3 4 5 6 7 8;
       01A2 0D                    FCB     $D,$A,0,0,0,0,4
       01A9 50           PLAYER   FCC     !PLAYER !
       01B0 04                    FCB     4
       01B1 20           LOSE     FCC     ; LOSES!;
       01B8 0D                    FCB     $D,$A,$A,0,0,0
       01BE 50                    FCC     !PLAY AGAIN? !
       01CA 04                    FCB     4
       01CB 20           BAD      FCB     $20,7,4
       01CE 54           NOCHES   FCC     ;THERE'S NO COOKIE THERE!;
       01E6 04                    FCB     4
       01E7 43           NIB      FCC     !CHOMP!
       01EC 04                    FCB     4
                                  END
```

SYMBOL TABLE:

BAD	01CB	BEGIN	0040	BITE	00AC	CHKCH	007C	CNT	002C
COL	002B	CONTRL	004E	COOKIE	0020	CRLF	0178	DCRA	00F2
EAT	0112	ERR	00D1	GOOD	010E	GOTROW	00F8	HERE	017F
INEEE	0045	INLOOP	0154	INL001	0152	LOOP	0143	LOSE	01B1
MAIN	005D	MLOOP	0079	NIB	01E7	NO	00A1	NOCHES	01CE
NUM	0029	NUMS	0191	NXTLIN	0164	OK1	00D9	OUTEEE	0042
OUTS	004B	PCRLF	0171	PDATA1	0048	PLAYER	01A9	PROMPT	00BE
PRT	015B	PRTCH	011D	ROTA	00FC	ROW	002A	SETCH	006B
START	0051	STILL	00A4	TEMP	0028	THERE	0159		

```
S105A0480040D2
S1130040020F7EE1D17EE1AC7EE07E7EE0CC7EE0DE
S1130050E38EA042BD0171CE01E7BD0048BD017130
S1130060CE017FBD004886FFCE0020A700088C008B
S11300702826F8BD011D7F0029BD00AC9620262440A
S1130080BD0171CE01A9BD00489629840188031BD03
S1130090042CE01B1BD00486D0045814E27022007B
S11300A0BC7E004EBD011D7C002920CDBD0171CE5A
S11300B001A9BD00489629840188031BD0042863FC9
S11300C0BD0042BD004BBD004580302304810823A0
S11300D008CE01CBBD004820E5972A862CBD0042FE
S11300E0BD0045803023EA810822E6972BCE00200C
S11300F0962A4A27030820FA4FD62B0D465A26FC87
S1130100A500260A8D6BCE01CEBD0048209E4880F6
S11301100143A400A700088C002826F6398D52CE8E
S11301200191BD0048CE00208631BD0042BD004B88
S11301308650BD0042BD004B8632972CA60048C6AF
S113014007200FC608962CBD00427C002CBD004B36
S1130150A600972878002824CB862ABD0042BD00FB
S11301604B5A26F0DF2A8D09DE2A088C002826D374
S113017039CE0178BD0048390DCA00000C00004485A
S113018045524527532054484520434F4F4B49453A
S113019004202031203220332034203520362037EB
S11301A020380D0A0000000004504C41594552200EB
S11301B004204C4F53452108D0A0A000000504CB3
S11301C0415920414741494E3F20042007045448E7
S11301D04552452753204E4F20434F4F4B495200E
S11001E05448455245210443484F50004F F6
S9030000FC
```

SAMPLE OUTPUT

```
*R E1 EA E1 AF08 0020 A042
*G
CHOMP
HERE'S THE COOKIE
    1 2 3 4 5 6 7 8
1 P * * * * * * *
2 * * * * * * * *
3 * * * * * * * *
4 * * * * * * * *
5 * * * * * * * *
6 * * * * * * * *
7 * * * * * * * *
8 * * * * * * * *

PLAYER 1? 5,5
    1 2 3 4 5 6 7 8
1 P * * * * * * *
2 * * * * * * * *
3 * * * * * * * *
4 * * * * * * * *
5 * * * *
6 * * * *
7 * * * *
8 * * * *

PLAYER 2? 2,2
    1 2 3 4 5 6 7 8
1 P * * * * * * *
2 *
3 *
4 *
5 *
6 *
7 *
8 *
```

```
PLAYER 1? 1,3
    1 2 3 4 5 6 7 8
1 P *
2 *
3 *
4 *
5 *
6 *
7 *
8 *

PLAYER 2? 2,1
    1 2 3 4 5 6 7 8
1 P *
2
3
4
5
6
7
8

PLAYER 1? 1,2
    1 2 3 4 5 6 7 8
1 P
2
3
4
5
6
7
8

PLAYER 2? 1,2
THERE'S NO COOKIE THERE!
PLAYER 2? 1,1
PLAYER 2 LOSES!

PLAY AGAIN? N
*
```