

LOCN B1 B2 B3

\*  
 \* THE GAME OF ROVER FOR THE 6800  
 \*  
 \* COPYRIGHT (C) 1976 BY  
 \* TECHNICAL SYSTEMS CONSULTANTS  
 \* BOX 2574 W.LAFAYETTE INDIANA 47906  
 \*  
 \* INSTRUCTIONS FOR PLAYING  
 \*  
 \* THE ROVER IS A CONSTANTLY MOVING, INVISIBLE  
 \* CREATURE. HIS ROAMING GROUNDS ARE A 10X10 GRID  
 \* WITH 0,0 BEING THE SOUTH WEST CORNER. IT IS  
 \* YOUR JOB TO FIND AND CATCH THE ROVER IN 6  
 \* GUESSES OR LESS RELYING ON CLUES SUPPLIED BY  
 \* THE COMPUTER. THE ROVER CAN MOVE ONLY ONE SPACE  
 \* AT A TIME INTO ANY ONE OF THE IMMEDIATE EIGHT  
 \* SURROUNDING LOCATIONS. HE WILL NEVER GO OUT OF  
 \* THE BOUNDARY LIMITS.  
 \*  
 \* THE STARTING ADDRESS FOR THIS PROGRAM IS 0020  
 \* HEX. WHEN INITIATED, THE COMPUTER WILL ASK YOU  
 \* FOR YOUR FIRST GUESS. THE FIRST NUMBER YOU SHOULD  
 \* ENTER INDICATES A NORTH-SOUTH DIRECTION (LARGER  
 \* NUMBERS GOING NORTH). THE SECOND NUMBER IS FOR  
 \* EAST-WEST (LARGER NUMBERS GOING EAST). YOU WILL  
 \* THEN BE TOLD WHICH DIRECTION YOU MUST GO TO  
 \* CATCH THE ROVER, THEN, GUESS AGAIN.  
 \*  
 \* THE TSC RANDOM NUMBER GENERATOR MUST BE LOADED  
 \* AT LOCATION A04A BEFORE STARTING.  
 \*

ORG \$0020

0020 20 27 BRA START

## \* EXTERNAL ROUTINES

0022 7E A0 4A RANDOM JMP \$A04A  
 0025 7E E0 7E PDATA1 JMP \$E07E  
 0028 7E E1 AC INCH JMP \$E1AC  
 002B 7E E1 D1 OUTCH JMP \$E1D1  
 002E 7E E0 E3 MIKBUG JMP \$E0E3

A MOTOROLA TRADEMARK

## \* TEMP STORAGE

0031 XSTORE RMB 1  
 0032 YSTORE RMB 1  
 0033 SAVE RMB 1  
 0034 BSAVE RMB 1  
 0035 FLAG RMB 1  
 0036 COUNT RMB 1  
 0037 TEMP RMB 2  
 0039 XSAVE RMB 2

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LOCN B1 B2 B3
003B          STACK   RMB   10
0045 00      TABLE  FCB   0,1,$FF,0
0048 00

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## \* MAIN PROGRAM STARTS HERE

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0049 8E A0 42  START   LDS   #SA042   SETUP STACK
004C CE 01 C3          LDX   #INTROS  OUTPUT INTRO.
004F BD 01 A8          JSR   PSTRNG
0052 BD 00 22  ROVER   JSR   RANDOM   GET RANDOM NUMBER
0055 84 0F          AND   A   #S0F     MASK IT
0057 81 09          CMP   A   #S09
0059 22 F7          BHI   ROVER
005B 8A 30          ORA   A   #S30     ADJUST IT
005D 97 32          STA   A   YSTORE  SAVE IT AS Y
005F BD 00 22      JSR   RANDOM   GET ANOTHER RANDOM #
0062 84 0F          AND   A   #S0F     MASK IT
0064 81 09          CMP   A   #S09
0066 22 EA          BHI   ROVER
0068 8A 30          ORA   A   #S30
006A 97 31          STA   A   XSTORE  SAVE IT AS X
006C 86 31          LDA   A   #S31
006E 97 36          STA   A   COUNT   SET UP COUNT
0070 CE 01 EA          LDX   #INTRO
0073 BD 01 A8          JSR   PSTRNG   OUTPUT INTRO
0076 CE 01 FF  LOOP   LDX   #STRO
0079 BD 01 A8          JSR   PSTRNG   OUTPUT GUESS PROMPT
007C 7F 00 35          CLR   FLAG
007F 96 36          LDA   A   COUNT
0081 BD 00 2B          JSR   OUTCH   OUTPUT GUESS NUM.
0084 CE 02 07          LDX   #STR1
0087 BD 00 25          JSR   PDATA1
008A BD 00 28          JSR   INCH   INPUT GUESS
008D 81 2F          CMP   A   #S2F   CHECK IF VALID
008F 23 04          BLS   NOTV1
0091 81 39          CMP   A   #S39
0093 23 08          BLS   CONT1
0095 CE 02 70  NOTV1  LDX   #DUMB   NOT VALID
0098 BD 01 A8          JSR   PSTRNG  REPORT
009B 20 D9          BRA   LOOP
009D 16          CONT1  TAB
009E CE 02 0A          LDX   #STR2
00A1 BD 00 25          JSR   PDATA1
00A4 BD 00 28          JSR   INCH   GET GUESS
00A7 81 2F          CMP   A   #S2F   IS IT VALID
00A9 23 04          BLS   NOTV2
00AB 81 39          CMP   A   #S39
00AD 23 08          BLS   CONT2
00AF CE 02 70  NOTV2  LDX   #DUMB   IF SO GO CONT.
00B2 BD 01 A8          JSR   PSTRNG  ELSE REPORT ERROR
00B5 20 BF          BRA   LOOP
00B7 97 33          CONT2  STA   A   SAVE   SAVE GUESS
00B9 D7 34          STA   B   BSAVE
00BB D1 32          CMP   B   YSTORE CHECK Y POSITION

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LOCN	B1	B2	B3				
00BD	27	56			BEQ	NEWCH	IF => GO CHECK
* NEW LOCATION ROUTINE							
00BF	BD	00	22	NEWLOC	JSR	RANDOM	GET A RANDOM NUM.
00C2	84	03			AND	A #3	MASK IT
00C4	CE	00	45		LDX	#TABLE	POINT TO MOVE TBL
00C7	DF	37			STX	TEMP	
00C9	9B	38			ADD	A TEMP+1	
00CB	97	38			STA	A TEMP+1	GET A MOVE
00CD	DE	37			LDX	TEMP	
00CF	E6	00			LDA	B 0,X	
00D1	96	31			LDA	A XSTORE	GET X LOCATION
00D3	1B				ABA		ADD IN MOVE
00D4	81	39			CMP	A #\$39	OUT OF BOUNDS?
00D6	22	E7			BHI	NEWLOC	IF SO, GO REPEAT
00D8	81	30			CMP	A #\$30	OUT OF BOUNDS?
00DA	27	02			BEQ	NEWL01	IF SO, REPEAT
00DC	23	E1			BLS	NEWLOC	
00DE	97	31		NEWL01	STA	A XSTORE	SAVE NEW X
00E0	91	33			CMP	A SAVE	
00E2	26	03			BNE	NEWL02	
00E4	7C	00	35		INC	FLAG	
00E7	BD	00	22	NEWL02	JSR	RANDOM	GET RANDOM NUMBER
00EA	84	03			AND	A #3	MASK IT
00EC	CE	00	45		LDX	#TABLE	POINT TO MOVE TABLE
00EF	DF	37			STX	TEMP	
00F1	9B	38			ADD	A TEMP+1	
00F3	97	38			STA	A TEMP+1	
00F5	DE	37			LDX	TEMP	GET A MOVE
00F7	E6	00			LDA	B 0,X	
00F9	96	32			LDA	A YSTORE	GET Y LOCATION
00FB	1B				ABA		ADD IN MOVE
00FC	81	39			CMP	A #\$39	OUT OF BOUNDS?
00FE	22	E7			BHI	NEWL02	IF SO, REPEAT
0100	81	30			CMP	A #\$30	OUT OF BOUNDS?
0102	27	02			BEQ	NEWL03	IF SO, GO REPEAT
0104	23	E1			BLS	NEWL02	
0106	7D	00	35	NEWL03	TST	FLAG	
0109	27	04			BEQ	NEWL04	
010B	91	34			CMP	A BSAVE	ON SQUARE GUESSED?
010D	27	D8			BEQ	NEWL02	IF SO, REPEAT
010F	97	32		NEWL04	STA	A YSTORE	SAVE Y LOCATION
0111	D6	34			LDA	B BSAVE	
0113	20	06			BRA	CONT3	
0115	91	31		NEWCH	CMP	A XSTORE	DID HE CATCH HIM?
0117	27	40			BEQ	CHECK1	IF SO, JUMP AHEAD
0119	20	A4			BRA	NEWLOC	
011B	D1	32		CONT3	CMP	B YSTORE	
011D	27	2C			BEQ	CHECK	CHECK IF FOUND
011F	CE	01	BF		LDX	#GOSTR	OUTPUT 'GO'
0122	BD	01	A8		JSR	PSTRNG	
0125	D1	32			CMP	B YSTORE	DETERMINE DIRECTION
0127	22	08			BHI	HI	
0129	CE	01	D4		LDX	#NORTH	NORTH

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LOCN B1 B2 B3
012C BD 00 25  HERE   JSR   PDATA1
012F 20 05          BRA   NXT
0131 CE 01 DA  HI     LDX   #SOUTH   SOUTH
0134 20 F6          BRA   HERE
0136 D6 33          NXT   LDA B  SAVE
0138 D1 31          CMP B  XSTORE
013A 22 0A          BHI   HI2     DETERMINE DIRECTION
013C 27 2E          BEQ   NXT2
013E CE 01 E0          LDX   #EAST   EAST
0141 BD 00 25  HERE2  JSR   PDATA1
0144 20 26          BRA   NXT2
0146 CE 01 E5  HI2    LDX   #WEST   WEST
0149 20 F6          BRA   HERE2
014B D6 33          CHECK  LDA B  SAVE   RESTORE B
014D D1 31          CMP B  XSTORE
014F 27 08          BEQ   CHECK1
0151 CE 01 BF          LDX   #GOSTR  OUTPUT 'GO'
0154 BD 01 A8          JSR   PSTRNG
0157 20 DD          BRA   NXT

```

## \* GET HERE IF FOUND HIM

```

0159 CE 02 0E  CHECK1  LDX   #STR3   OUTPUT NUM. OF TRIES
015C BD 01 A8          JSR   PSTRNG
015F 96 36          LDA A  COUNT
0161 BD 00 2B          JSR   OUTCH
0164 CE 02 20          LDX   #STR4
0167 BD 00 25          JSR   PDATA1  SEE IF PLAY AGAIN
016A 20 29          BRA   PLAGN

```

## \* GET HERE IF DIDN'T FIND

```

016C 7C 00 36  NXT2    INC   COUNT
016F 96 36          LDA A  COUNT
0171 81 37          CMP A  #$37   WAS IT THE 6TH GUESS?
0173 26 1D          BNE   NXT3   IF NOT, JUMP AHEAD
0175 CE 02 40          LDX   #LOSEST ELSE REPORT LOSS
0178 BD 01 A8          JSR   PSTRNG
017B CE 02 5B          LDX   #LOSST2
017E BD 01 A8          JSR   PSTRNG
0181 96 32          LDA A  YSTORE OUTPUT Y POSITION
0183 BD 00 2B          JSR   OUTCH
0186 86 2C          LDA A  #',   OUTPUT A COMMA
0188 BD 00 2B          JSR   OUTCH
018B 96 31          LDA A  XSTORE OUTPUT X POSITION
018D BD 00 2B          JSR   OUTCH
0190 20 03          BRA   PLAGN
0192 7E 00 76  NXT3    JMP   LOOP   GO REPEAT
0195 CE 02 2D  PLAGN   LDX   #AGANST PLAY AGAIN ??
0198 BD 01 A8          JSR   PSTRNG
019B BD 00 28          JSR   INCH   GET REPLY
019E 81 4E          CMP A  #'N'  IF 'N' EXIT
01A0 27 03          BEQ   EXIT
01A2 7E 00 52          JMP   ROVER  ELSE DO AGAIN!
01A5 7E 00 2E  EXIT    JMP   MIKBUG

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LOCN B1 B2 B3

## \* PRINT STRING ROUTINE

```

01A8 8D 03      PSTRNG  BSR      PCRLF      OUT A CR & LF
01AA 7E 00 25   JMP      PDATA1
01AD DF 39      PCRLF  STX      XSAVE      SAVE THE POINTER
01AF CE 01 B8   LDX     #CRLFST
01B2 BD 00 25   JSR     PDATA1  OUTPUT IT
01B5 DE 39      LDX     XSAVE    RESTORE
01B7 39        RTS

```

## \* STRINGS

```

01B8 0D      CRLFST  FCB      $D,$A,0,0,0,0,4
01BF 47      GOSTR   FCC      ;GO ;
01C2 04      FCB      4
01C3 0A      INTROS  FCB      $A
01C4 52      FCC      ;ROVER FOR 6800;
01D2 0A      FCB      $A,4
01D4 4E      NORTH  FCC      ;NORTH;
01D9 04      FCB      4
01DA 53      SOUTH  FCC      ;SOUTH;
01DF 04      FCB      4
01E0 45      EAST   FCC      ;EAST;
01E4 04      FCB      4
01E5 57      WEST   FCC      ;WEST;
01E9 04      FCB      4
01EA 54      INTRO  FCC      ;THE ROVER IS HIDING!;
01FE 04      FCB      4
01FF 47      STR0   FCC      ;GUESS #;
0206 04      FCB      4
0207 3F      STR1   FCC      ;? ;
0209 04      FCB      4
020A 20      STR2   FCC      ; ? ;
020D 04      FCB      4
020E 59      STR3   FCC      ;YOU FOUND HIM IN ;
021F 04      FCB      4
0220 20      STR4   FCC      ; GUESSES !!!;
022C 04      FCB      4
022D 0A      AGANST FCB      $A
022E 50      FCC      ;PLAY AGAIN(Y-N)? ;
023F 04      FCB      4
0240 53      LOSEST FCC      ;SORRY, THAT WAS 6 GUESSES.;
025A 04      FCB      4
025B 54      LOSST2 FCC      ;THE ROVER IS NOW AT ;
026F 04      FCB      4
0270 59      DUMB   FCC      ;YOU GOOFED! TRY AGAIN.;
0286 04      FCB      4
                                END

```

## SYMBOL TABLE:

AGANST 022D	BSAVE 0034	CHECK 014B	CHECK1 0159	CONT1 009D
CONT2 00B7	CONT3 011B	COUNT 0036	CRLFST 01B8	DUMB 0270
EAST 01E0	EXIT 01A5	FLAG 0035	GOSTR 01BF	HERE 012C
HERE2 0141	HI 0131	HI2 0146	INCH 0028	INTRO 01EA

INTROS 01C3	LOOP 0076	LOSEST 0240	LOSST2 025B	MIKBUG 002E
NEWCH 0115	NEWLOC 00BF	NEWLO1 CODE	NEWLO2 00E7	NEWLO3 C106
NEWLO4 010F	NORTH 01D4	NOTV1 0095	NOTV2 00AF	NXT 0136
NXT2 016C	NXT3 0192	OUTCH 002B	PCRLF 01AD	PDATA1 0025
PLAGN 0195	PSTRNG 01A8	RANDOM 0022	ROVER 0052	SAVE G033
SOUTH 01DA	STACK 003B	START 0049	STRO 01FF	STR1 0207
STR2 020A	STR3 020E	STR4 0220	TABLE 0045	TEMP 0037
WEST 01E5	XSAVE 0039	XSTORE 0031	YSTORE 0032	

S113002020277EA04A7EE07E7EE1AC7EE1D17EE0A8  
 S1040030E3E8  
 S11300450001FF008EA042CE01C3BD01A8BD002260  
 S1130055840F810922F78A309732BD002284CF81EB  
 S11300650922EA8A30973186319736CE01EABD01F5  
 S1130075A8CE01FFBD01A87F00359636BD002BCE65  
 S11300850207BD0025BD0028812F230481392308DB  
 S1130095CE0270BD01A820D916CE020ABD0025BD29  
 S11300A50028812F230481392308CE0270BD01A8BD  
 S11300B520BF9733D734D1322756BD00228403CECF  
 S11300C50045DF379B389738DE37E60096311B81CC  
 S11300D53922E78130270223E19731913326037CC6  
 S11300E5G035BD00228403CE0045DF379B389738A1  
 S11300F5DE37E60096321B813922E7813027022359  
 S1130105E17D00352704913427D89732D63420066B  
 S11301159131274020A4D132272CCE01BFBD01A89F  
 S1130125D1322208CE01D4BD00252005CE01DA2026  
 S1130135F6D633D131220A272ECE01E0BD00252083  
 S113014526CE01E520F6D633D1312708CE01BFBD31  
 S113015501A820DDCE020EBD01A89636BD002BCE2A  
 S11301650220BD002520297C003696368137261DC0  
 S1130175CE0240BD01A8CE025BBD01A89632BD00EA  
 S11301852B862CBD002B9631BD002B20037E0076DB  
 S1130195CE0220BD01A8BD0028814E27037E005245  
 S11301A57E002E8D037E0025DF39CE01B8BD0025E6  
 - S11301B5DE39390D0A0000000004474F20040A52B5  
 - S11301C54F56455220464F5220363830300A044E99  
 - S11301D54F52544804534F5554480445415354040D  
 \* S11301E5574553540454484520524F5645522049C7  
 S11301F55320484944494E47210447554553532004  
 S113020523043F2004203F2004594F5520464F55D1  
 - S11302154E442048494D20494E2004204755455316  
 S113022553455320212121040A504C41592041476B  
 - S113023541494E2859204E293F2004534F525259B6  
 S11302452C205448415420574153203620475545C6  
 - S1130255535345532E0454484520524F5645522076  
 < S11302654953204E4F572041542004594F55204798  
 S11302754F4F464544212054525920414741494E48  
 S10502852E0441  
 S9030000FC

## SAMPLE OUTPUT

\*G

ROVER FOR 6800

THE ROVER IS HIDING!  
 GUESS #17 4 ? 7  
 GO NORTHEAST  
 GUESS #27 7 ? 9  
 GO SOUTH  
 GUESS #37 6 ? 9  
 YOU FOUND HIM IN 3 GUESSES !!!

PLAY AGAIN(Y-N)? Y

ROVER FOR 6800

THE ROVER IS HIDING!  
 GUESS #17 3 ? 7  
 GO NORTHWEST  
 GUESS #27 7 ? 3  
 GO NORTHWEST  
 GUESS #37 9 ? 0  
 GO EAST  
 GUESS #47 9 ? 1  
 YOU FOUND HIM IN 4 GUESSES !!!

PLAY AGAIN(Y-N)? Y

ROVER FOR 6800

THE ROVER IS HIDING!  
 GUESS #17 5 ? 5  
 GO SOUTHWEST  
 GUESS #27 1 ? 1  
 GO NORTHEAST  
 GUESS #37 3 ? 3  
 YOU FOUND HIM IN 3 GUESSES !!!

PLAY AGAIN(Y-N)? Y

ROVER FOR 6800

THE ROVER IS HIDING!  
 GUESS #17 7 ? 2  
 GO SOUTHEAST  
 GUESS #27 4 ? 6  
 GO SOUTHEAST  
 GUESS #37 3 ? 7  
 GO SOUTHEAST  
 GUESS #47 0 ? 9  
 YOU FOUND HIM IN 4 GUESSES !!!

PLAY AGAIN(Y-N)? Y

ROVER FOR 6800

THE ROVER IS HIDING!  
 GUESS #17 3 ? 8  
 GO NORTHWEST  
 GUESS #27 4 ? 7  
 GO NORTHWEST  
 GUESS #37 6 ? 5  
 GO NORTHWEST  
 GUESS #47 9 ? 0  
 GO SOUTHEAST  
 GUESS #57 8 ? 1  
 YOU FOUND HIM IN 5 GUESSES !!!

PLAY AGAIN(Y-N)? Y

ROVER FOR 6800

THE ROVER IS HIDING!  
 GUESS #17 3 ? 8  
 GO NORTH  
 GUESS #27 4 ? 8  
 GO NORTH  
 GUESS #37 5 ? 8  
 GO NORTHEAST  
 GUESS #47 6 ? 8  
 GO EAST  
 GUESS #57 6 ? 9  
 YOU FOUND HIM IN 5 GUESSES !!!

PLAY AGAIN(Y-N)? Y

ROVER FOR 6800

THE ROVER IS HIDING!  
 GUESS #17 2 ? 9  
 GO SOUTHWEST  
 GUESS #27 1 ? 8  
 GO WEST  
 GUESS #37 1 ? 7  
 GO WEST  
 GUESS #47 1 ? 6  
 GO WEST  
 GUESS #57 1 ? 5  
 GO SOUTHWEST  
 GUESS #67 0 ? 5  
 GO WEST  
 SORRY, THAT WAS 6 GUESSES.  
 THE ROVER IS NOW AT 0,1

PLAY AGAIN(Y-N)? N

\*