

Goldfish Instructions

~~HIT~~ RESET
~~HIT~~ CALL

ENTER B Then WRITE for # of text lines

ENTER FOUR WRITES

TYPE * READ

START RECORDER

WHEN DONE LOADING

TYPE ** 4B40 CALL

TIME ENTERED USING KEYPAD OR JY (1)

ADDR	CODE	STMT	SOURCE	STATEMENT
		0002	;	
		0003	;	DATE: MARCH 15, 1982
		0004	;	
		0005	;	
		0006	;	
		0007	;	SYSTEM EQUATES
		0008	;	
>00FF		0009	SYSTEM EQU	0FFH
>00FF		0010	SYSSUK EQU	0FFH
>0004		0011	RCALL EQU	04H
>0006		0012	MCALL EQU	06H
>000E		0013	ACTINT EQU	0EH
>0012		0014	BMUSIC EQU	12H
>0014		0015	EMUSIC EQU	14H
>001A		0016	FILL EQU	1AH
>001C		0017	RECTAN EQU	1CH
>001E		0018	VWRIT EQU	1EH
>0020		0019	WRITR EQU	20H
>002E		0020	RESTOR EQU	2EH
>0034		0021	STRDIS EQU	34H
>003A		0022	RELAB1 EQU	3AH
>003E		0023	VECT EQU	3EH
>004E		0024	GETNUM EQU	4EH
>0050		0025	PAWS EQU	50H
>005A		0026	INDEXW EQU	5AH
>005C		0027	INDEXB EQU	5CH
>005E		0028	MOVEB EQU	5EH
>0076		0029	RANGED EQU	76H
>0078		0030	QUIT EQU	78H
>007E		0031	MSKTD EQU	7EH
>00D7		0032	DISP EQU	0D7H
>00DF		0033	STRING EQU	0DFH
>2347		0034	CLEAR EQU	2347H
>2451		0035	SPACE EQU	2451H
>23D4		0036	NUMDIS EQU	23D4H
>245E		0037	RGDIS EQU	245EH
>4FAD		0038	MODE EQU	4FADH
>4FB8		0039	SCRN EQU	4FB8H
>2496		0040	KEYGET EQU	2496H
>4FF3		0041	NUMPLY EQU	4FF3H
>4FF8		0042	GAMSTB EQU	4FF8H
>4FC3		0043	COORD EQU	4FC3H
>4FC5		0044	FOPT EQU	4FC5H
>4FBD		0045	HIT EQU	4FBDH
>4FC6		0046	SHOTS EQU	4FC6H
>4FDA		0047	CT5 EQU	4FDAH
>4FDB		0048	CT6 EQU	4FDBH
>4FDC		0049	CT7 EQU	4FDCH
>4FED		0050	GTSECS EQU	4FEDH
>4FEE		0051	GTMINS EQU	4FEEH
>4FB7		0052	FACT EQU	4FB7H
>000A		0053	XPOS EQU	0AH
>0006		0054	YPOS EQU	6
>060A		0055	XYPOS EQU	(YPOS.SHL.8)+XPOS
>008C		0056	XDIM EQU	140
>0043		0057	YDIM EQU	67
>0002		0058	PATX EQU	02 ;FISH PATTERN X SIZE
>0007		0059	PATY EQU	07 ; " Y SIZE

ADDR	CODE	STMT	SOURCE	STATEMENT
		0060	;	
		0061	;	
		0062	;	
>4B40		0063	ORG	4B40H
*>4B40		0064	INIT	
*4B40	3E08	0065	LD	A,08
*4B42	D30E	0066	OUT	(0EH),A ;TURN OFF TAPE INPUT
*4B44	31AC4F	0067	LD	SP,4FACH
*4B47	21400B'	0068	LD	HL,INIT-4000H ;SCREEN SIZE
*4B4A	22B84F	0069	LD	(SCRN),HL ;FOR CLEARING
*4B4D	3E84	0070	LD	A,132
*4B4F	D30A	0071	OUT	(0AH),A ;BLANK LINE
*4B51	CD4723	0072	CALL	CLEAR
*4B54	FF	0073	DEFB	SYSSUK
*4B55	0E	0074	DEFB	ACTINT ;START INTERRUPTS
*4B56	3EFA	0075	LD	A,0FAH ;BLUE BACKGROUND
*4B58	D304	0076	OUT	(04),A
*4B5A	3E07	0077	LD	A,07
*4B5C	D305	0078	OUT	(05),A ;COLOR #1
*4B5E	32ED4F	0079	LD	(GTSECS),A ;7 SECOND DELAY
		0080	;	
*4B61	FF	0081	DEFB	SYSSUK
*4B62	00	0082	DEFB	00
		0083	;	
*4B63	35	0084	DEFB	STRDIS+1
*4B64	1000	0085	DEFW	0010H
366	04	0086	DEFB	04
*4B67	904B'	0087	DEFW	TBFM
		0088	;	
*4B69	35	0089	DEFB	STRDIS+1
*4B6A	340C	0090	DEFW	0C34H
*4B6C	04	0091	DEFB	04
*4B6D	A14B'	0092	DEFW	PMSG
		0093	;	
*4B6F	35	0094	DEFB	STRDIS+1
*4B70	1819	0095	DEFW	1918H
*4B72	4C	0096	DEFB	01001100B ;COLOR 3, 2X
*4B73	A94B'	0097	DEFW	BMSG
		0098	;	
*4B75	02	0099	DEFB	02 ;EXIT
*4B76	010707	0100	LD	BC,0707H
*4B79	ED41	0101	OUT	(C),B ;COLOR #3
*4B7B	C5	0102	PUSH	BC
*4B7C	FF	0103	DEFB	SYSSUK
*4B7D	51	0104	DEFB	PAWS+1
*4B7E	03	0105	DEFB	3 ;1/20 SECOND
*4B7F	C1	0106	POP	BC
*4B80	3E08	0107	LD	A,8 ;CHANGE THE COLOR
*4B82	80	0108	ADD	A,B
*4B83	47	0109	LD	B,A
*4B84	3AED4F	0110	LD	A,(GTSECS) ;CHECK TIME
*4B87	A7	0111	AND	A
388	20EF	0112	JR	NZ,CSA
*4B8A	CD4723	0113	CALL	CLEAR
*4B8D	C3154C'	0114	JP	CSTRT
		0115	;	
		0116	;	
		0117	;	

ADDR	GOLDFISH CODE	DEMO STMT	SOURCE	STATEMENT	
390	54484520 42495420 46494444 4C455253	0118	TBFM	DEFM	'THE BIT FIDDLERS'
*4BA0	00	0119		DEFB	00
*4BA1	50524553 454E54	0120	PMSG	DEFM	'PRESENT'
*4BA8	00	0121		DEFB	00
*4BA9	474F4C44 46495348 20202020 44454D4F	0122	BMSG	DEFM	'GOLDFISH DEMO'
*4BB9	00	0123		DEFB	00
*4BBA	504C4541 53452045 4E544552 20544845 2054494D 453A	0124	TMSG	DEFM	'PLEASE ENTER THE TIME:'
*4BD0	00	0125		DEFB	00
*4BD1	484F5552 3A20	0126	HRMSG	DEFM	'HOUR: '
*4BD7	00	0127		DEFB	00
*4BD8	4D494E53 3A20	0128	MINMSG	DEFM	'MINS: '
*4BDE	00	0129		DEFB	00
3DF	48495420 2A204B45 5920544F 20434841 4E474520 454E5452 494553	0130	CMSG	DEFM	'HIT * KEY TO CHANGE ENTRIES'
*4BFA	0D	0131		DEFB	0DH
*4BFB	20202020 414E5920 4F544845 5220544F 20434F4E 54494E55 45	0132		DEFM	' ANY OTHER TO CONTINUE'
*4C14	00	0133		DEFB	00
		0134 ;			
		0135 ;			
		0136 ;	COLD START		
		0137 ;			
*4C15	31AC4F	0138	CSTRT	LD	SP, 4FACH
*4C18	CD4723	0139	CS1	CALL	CLEAR
*4C1B	211819	0140		LD	HL, 1918H ; SET UP COORDINATES
*4C1E	22C34F	0141		LD	(COORD), HL
*4C21	DF	0142		DEFB	STRING
*4C22	BA4B'	0143		DEFW	TMSG
C24	211822	0144		LD	HL, 2218H
*4C27	22C34F	0145		LD	(COORD), HL
*4C2A	DF	0146		DEFB	STRING
*4C2B	D14B'	0147		DEFW	HRMSG
*4C2D	FF	0148		DEFB	SYSSUK ; GET TIME
*4C2E	4F	0149		DEFB	GETNUM+1

ADDR	CODE	STMT	SOURCE STATEMENT
02F	3022	0150	DEFW 2230H
*4C31	04	0151	DEFB 04
*4C32	C2	0152	DEFB 0C2H
*4C33	DB4F	0153	DEFW CT6
*4C35	7E	0154	LD A,(HL) ;TEST INPUT
*4C36	FE13	0155	CP 13H
*4C38	30DE	0156	JR NC,CS1 ;GO BACK IF TOO BIG
*4C3A	A7	0157	AND A
*4C3B	28DB	0158	JR Z,CS1 ;OR ZERO
*4C3D	211830	0159	LD HL,3018H
*4C40	22C34F	0160	LD (COORD),HL
*4C43	DF	0161	DEFB STRING
*4C44	D84B'	0162	DEFW MINMSG ;GET MINUTES
*4C46	FF	0163	DEFB SYSSUK
*4C47	4F	0164	DEFB GETNUM+1
*4C48	3030	0165	DEFW 3030H
*4C4A	04	0166	DEFB 04
*4C4B	42	0167	DEFB 42H
*4C4C	DC4F	0168	DEFW CT7
*4C4E	7E	0169	LD A,(HL) ;TEST INPUT
*4C4F	FE60	0170	CP 60H
*4C51	30C5	0171	JR NC,CS1 ;TOO BIG, START OVER
*4C53	211838	0172	LD HL,3818H
*4C56	22C34F	0173	LD (COORD),HL
*4C59	DF	0174	DEFB STRING
*4C5A	DF4B'	0175	DEFW CMSG
05C	CD9624	0176	CALL KEYGET ;ASK IF CHANGES
*4C5F	78	0177	LD A,B ;GET RESPONSE
*4C60	FE15	0178	CP 21 ;STAR?
*4C62	28B4	0179	JR Z,CS1 ;YEP, GO BACK AND CHANGE
*4C64	21ED4F	0180	LD HL,6TSECS
*4C67	3659	0181	LD (HL),59H ;ZERO OUT SECONDS
*4C69	23	0182	INC HL ;SET UP MINUTES
*4C6A	3ADC4F	0183	LD A,(CT7) ;GET MINUTES INFO
*4C6D	47	0184	LD B,A ;PUT IN B
*4C6E	3E59	0185	LD A,59H
*4C70	90	0186	SUB B ;ADJUST FOR SYSTEM TIMER
		0187	;IT COUNTS DOWN
*4C71	77	0188	LD (HL),A
		0189	;LET'S GET ON WITH IT
*4C72	FF	0190	DEFB SYSTEM
*4C73	0E	0191	DEFB ACTINT ;START INTERRUPTS
*4C74	CD4723	0192	CALL CLEAR
*4C77	AF	0193	XOR A
*4C78	D304	0194	OUT (04),A ;BLACK MAIN BACKGROUND
		0195	;
*4C7A	32AD4F	0196	LD (MODE),A
*4C7D	3EFD	0197	LD A,0FDH ;LT. BLUE
*4C7F	D306	0198	OUT (6),A ;COLOR #2
*4C81	3E7D	0199	LD A,7DH ;ORANGE
*4C83	D305	0200	OUT (5),A ;COLOR #1
*4C85	3EAC	0201	LD A,0ACH ;LT GREEN
087	D307	0202	OUT (7),A ;COLOR #3
		0203	;
		0204	;PUT IN THE CAT
		0205	;
*4C89	FF	0206	DEFB SYSSUK
*4C8A	1D	0207	DEFB RECTAN+1

ADDR	CODE	STMT	SOURCE STATEMENT
08B	78	0208	DEFB 120
*4CBC	31	0209	DEFB 49
*4CBD	28	0210	DEFB 40
*4CBE	18	0211	DEFB 24
*4CBF	55	0212	DEFB 01010101B
*4C90	AF	0213	XOR A ;SET COLOR MASK
*4C91	21534E'	0214	LD HL,TABAD ;TABLE ADDRESS
*4C94	CDB14D'	0215	CALL DRAW
*4C97	3EFF	0216	LD A,OFFH ;ALL ONES
*4C99	21A04E'	0217	LD HL,TAB2
*4C9C	CDB14D'	0218	CALL DRAW ;DO THE EYES
		0219 ;	
		0220 ;	
		0221 ;	PAINT THE BOWL
*4C9F	FF	0222	DEFB SYSSUK
*4CA0	00	0223	DEFB 00 ;START INTERPRETER
*4CA1	1D	0224	DEFB RECTAN+1
*4CA2	0A06	0225	DEFW XYPOS
*4CA4	02	0226	DEFB 2
*4CA5	45	0227	DEFB YDIM+2
*4CA6	AA	0228	DEFB 0AAH ;COLOR #2...L. BLUE
*4CA7	1D	0229	DEFB RECTAN+1
*4CA8	0C	0230	DEFB XPOS+2
*4CA9	49	0231	DEFB YPOS+YDIM
*4CAA	8C	0232	DEFB XDIM
*4CAB	02	0233	DEFB 2
*CAC	AA	0234	DEFB 0AAH ;COLOR #0...BLUE
		0235 ;	WATER UPPER LINE
*4CAD	1D	0236	DEFB RECTAN+1
*4CAE	0C0B	0237	DEFW XYPOS+502H ;DOWN 5 LINES, OVER 2
*4CB0	8C	0238	DEFB XDIM
*4CB1	01	0239	DEFB 1 ;THIN LINE
*4CB2	AA	0240	DEFB 0AAH ;LT. BLUE
		0241 ;	RIGHT SIDE
*4CB3	1D	0242	DEFB RECTAN+1
*4CB4	96	0243	DEFB XPOS+XDIM
*4CB5	06	0244	DEFB YPOS
*4CB6	02	0245	DEFB 2
*4CB7	43	0246	DEFB YDIM
*4CB8	AA	0247	DEFB 0AAH
*4CB9	02	0248	DEFB 02 ;EXIT INTERPRETER
		0249 ;	SET UP BOTTOM OF BOWL
*4CBA	2603	0250	LD H,3
*4CBC	2E23	0251	LD L,XDIM/4
*4CBE	22134C'	0252	LD (CSTRT-2),HL ;FAKE OUT SYSTEM
*4CC1	1646	0253	LD D,YPOS+YDIM-3
*4CC3	1E0C	0254	LD E,XPOS+2
*4CC5	AF	0255	XOR A
*4CC6	FF	0256	DEFB SYSTEM
*4CC7	3A	0257	DEFB RELAB1 ;3AH
*4CC8	EB	0258	EX DE,HL
*4CC9	11134C'	0259	LD DE,CSTRT-2
*CCC	FF	0260	DEFB SYSTEM
*4CCD	2E	0261	DEFB RESTOR
		0262 ;	DROP THE REST OF CURTAIN
*4CCE	3E96	0263	LD A,150
*4CD0	D30A	0264	OUT (0AH),A
		0265 ;	INITIAL WRITES

ADDR	CODE	STMT	SOURCE	STATEMENT
02D2	0607	0266		LD B,7 ;# OF FISH
*4CD4	FF	0267	IW1	DEFB SYSSUK
*4CD5	77	0268		DEFB RANGED+1
*4CD6	87	0269		DEFB XDIM-5 ;GET A RANDOM X POSITION
*4CD7	C605	0270		ADD A,5 ;RANGE IT PROPERLY
*4CD9	32B14E'	0271		LD (VBX),A ;PUT IT IN VECTOR BLOCK
*4CDC	FF	0272		DEFB SYSSUK
*4CDD	77	0273		DEFB RANGED+1
*4CDE	39	0274		DEFB YDIM-10 ;GET RANDOM Y
*4CDF	C60A	0275		ADD A,10 ;RANGE IT
*4CE1	32B64E'	0276		LD (VBY),A ;PUT IN VB
*4CE4	CDAB4D'	0277		CALL RANDELTA ;GET A RANDOM DELTA X
*4CE7	32AE4E'	0278		LD (VBDX),A ;PUT IN VB
*4CEA	CDAB4D'	0279		CALL RANDELTA ;RANDOM DELTA Y
*4CED	32B34E'	0280		LD (VBDY),A
*4CF0	78	0281		LD A,B ;SET UP TIMER FOR THIS FISH
*4CF1	FF	0282		DEFB SYSSUK
*4CF2	5B	0283		DEFB INDEXW+1 ;GET PACKET ADDRESS
*4CF3	E04E'	0284		DEFW PACTAB-2 ;PACKET ADDRESS TABLE
*4CF5	210400	0285		LD HL,4 ;LOOK AT TIMER FOR THIS FISH
*4CF8	19	0286		ADD HL,DE ;DE IS FIRST ENTRY IN PACKET
		0287		;FIRST INFO IS X POSITION
*4CF9	3680	0288		LD (HL),80H ;A NUMBER
		0289		;INTO THE TIMER
*4CFB	CD524D'	0290		CALL WRITE1 ;PUT THIS FISH ON SCREEN
*4CFE	10D4	0291		DJNZ IW1 ;DO THE NEXT FISH
		0292		;INITIALIZE TIME CHECKS
*4D00	21F84F	0293		LD HL,GAMSTB ;GAME STATUS BYTE
*4D03	CBC6	0294		SET 0,(HL) ;DO CHECKS
		0295		;SYSTEM WILL SET BIT 7 WHEN TIME TO FLIP HOURS
		0296		;
		0297		;LET'S START EVERYTHING
* >4D05		0298	GO	
*4D05	CDC14D'	0299		CALL TIME ;DO THE CLOCK
*4D08	0607	0300		LD B,7 ;# OF FISH
*4D0A	78	0301	G1	LD A,B
*4D0B	FF	0302		DEFB SYSSUK ;GET PACKET ADDRESS FROM TABLE
*4D0C	5B	0303		DEFB INDEXW+1
*4D0D	E04E'	0304		DEFW PACTAB-2 ;-2 SINCE ZERO ENTRY NOT USED
*4D0F	EB	0305		EX DE,HL ;MOVE ANSWER TO HL
*4D10	7E	0306		LD A,(HL) ;GET X POS.
*4D11	32B14E'	0307		LD (VBX),A ;STUFF IT IN VB
*4D14	5F	0308		LD E,A ;SAVE IT IN E
		0309		;DE USED IN REL. WRITE
*4D15	23	0310		INC HL
*4D16	7E	0311		LD A,(HL) ;YPOS
*4D17	32B64E'	0312		LD (VBY),A
*4D1A	57	0313		LD D,A ;SAVE IT IN D
*4D1B	23	0314		INC HL ;LOOKING AT DELTA XLOW
*4D1C	7E	0315		LD A,(HL) ;GET IT
*4D1D	32AE4E'	0316		LD (VBDX),A ;PUT IT IN VB
*4D20	CD8E4D'	0317		CALL CKFLOP ;TEST IF NEG. DELTA
		0318		;AND FLOP PICTURE ACCORDINGLY
*4D23	23	0319		INC HL
*4D24	7E	0320		LD A,(HL) ;GET DELTA YLOW
*4D25	32B34E'	0321		LD (VBDY),A
*4D28	CB7F	0322		BIT 7,A ;FIX DELTA Y HI
*4D2A	3EFF	0323		LD A,OFFH

ADDR	CODE	STMT	SOURCE STATEMENT
J2C	2001	0324	JR NZ,G2
* 4D2E	AF	0325	XOR A
* 4D2F	32B44E'	0326	G2 LD (VBDY+1),A
* 4D32	23	0327	INC HL ;SAVE TIMER ADDR
* 4D33	E5	0328	PUSH HL
* 4D34	3E03	0329	LD A,03H ;TIMEBASE
* 4D36	32AD4E'	0330	LD (VBTB),A
		0331	;UPDATE THE VECTOR BLOCK
* 4D39	FF	0332	DEFB SYSSUK
* 4D3A	3F	0333	DEFB VECT+1
* 4D3B	AB4E'	0334	DEFW VB
* 4D3D	B84E'	0335	DEFW LT
		0336	;PUT BLANK OUT OF SIGHT
* 4D3F	CDA94E'	0337	CALL WAIT
* 4D42	3E20	0338	LD A,20H ;MAGIC REG.
* 4D44	2AE04E'	0339	LD HL,(PATAD) ;GET READY FOR REL. WRITE
		0340	;WRITE1 PUTS A FISH ON THE SCREEN,
		0341	;WRITR IS USED TO ERASE IT
* 4D47	FF	0342	DEFB SYSTEM
* 4D48	20	0343	DEFB WRITR
* 4D49	E1	0344	POP HL ;RETRIEVE TIMER ADDR.
* 4D4A	CD524D'	0345	CALL WRITE1 ;FIX MAG. REG. AND WRITE
* 4D4D	10BB	0346	DJNZ G1 ;GO BACK AND GET ANOTHER FISH
* 4D4F	C3054D'	0347	JP GO ;ALL DONE? THEN START OVER.
		0348	;SUBROUTINES
* 4D52		0349	WRITE1
J52	CD7B4D'	0350	CALL TIMECK ;CHECK TIMER
* 4D55	CD8E4D'	0351	CALL CKFLOP ;GET RIGHT ORIENTATION
* 4D58	2AE04E'	0352	LD HL,(PATAD) ;GET PATTERN ADDRESS
* 4D5B	DD21AB4E'	0353	LD IX,VB
* 4D5F	FF	0354	DEFB SYSTEM
* 4D60	1E	0355	DEFB VWRIT ;WRITE FROM VECTOR
		0356	;
* 4D61	78	0357	LD A,B ;GET BACK INDEX
* 4D62	FF	0358	DEFB SYSSUK
* 4D63	5B	0359	DEFB INDEXW+1
* 4D64	E04E'	0360	DEFW PACTAB-2 ;GET PACKET ADDRESS FOR THIS FISH
* 4D66	EB	0361	EX DE,HL
* 4D67	3AB14E'	0362	LD A,(VBX) ;TAKE FROM VB
* 4D6A	77	0363	LD (HL),A ;PUT IN PACKET
* 4D6B	23	0364	INC HL
* 4D6C	3AB64E'	0365	LD A,(VBY)
* 4D6F	77	0366	LD (HL),A
* 4D70	23	0367	INC HL
* 4D71	3AAE4E'	0368	LD A,(VBDX)
* 4D74	77	0369	LD (HL),A
* 4D75	23	0370	INC HL
* 4D76	3AB34E'	0371	LD A,(VBDY)
* 4D79	77	0372	LD (HL),A
* 4D7A	C9	0373	RET
		0374	;
* 4D7B		0375	TIMECK
		0376	;ENTERS WITH HL POINTING TO TIMER IN PACKET
* 4D7B	35	0377	DEC (HL) ;STEP TIMER
* 4D7C	CO	0378	RET NZ ;NOT TIMED OUT YET
		0379	;
* 4D7D	FF	0380	DEFB SYSSUK ;GET A NEW TIME
* 4D7E	77	0381	DEFB RANGED+1

ADDR	CODE	STMT	SOURCE	STATEMENT
	J7F	50	0382	DEFB 50H ;SOMETHING LESS THAN 50H
*4DB0	77	0383	LD	(HL),A ;PUT INTO PACKET
*4DB1	CDA84D'	0384	CALL	RANDEL ;GET A RANDOM DELTA Y
*4DB4	32B34E'	0385	LD	(VBDY),A
*4DB7	CDA84D'	0386	CALL	RANDEL ;DO IT FOR DX
*4DBA	32AE4E'	0387	LD	(VBDX),A
*4DBD	C9	0388	RET	;AND GO HOME
		0389	;	
*4DBE	E5	0390	CKFLOP PUSH	HL ;SAVE HL REGISTERS
*4DBF	3AAE4E'	0391	LD	A,(VBDX) ;GET DELTA X
*4D92	CB7F	0392	BIT	7,A ;TEST IF IT'S NEG.
*4D94	3E00	0393	LD	A,0
*4D96	21BC4E'	0394	LD	HL,PAT ;POSITIVE RESPONSES
*4D99	2B05	0395	JR	Z,CK2
*4D9B	3EFF	0396	LD	A,OFFH ;NEGATIVE RESPONSES
*4D9D	21CE4E'	0397	LD	HL,PAT2
*4DA0	32AF4E'	0398	CK2 LD	(VBDX+1),A
*4DA3	22E04E'	0399	LD	(PATAD),HL
*4DA6	E1	0400	POP	HL
*4DA7	C9	0401	RET	
		0402	;	
*4DA8	FF	0403	RANDEL DEF	SYSSUK ;GET A RANDOM DELTA
*4DA9	77	0404	DEFB	RANGED+1
*4DAA	7F	0405	DEFB	7FH
*4DAB	4F	0406	LD	C,A ;CHECK IF IT'S EVEN/ODD
*4DAC	1F	0407	RRA	;SHIFT LD BIT INTO CARRY
JAD	79	0408	LD	A,C ;RESTORE IT
*4DAE	D0	0409	RET	NC ;IF EVEN, GO HOME
*4DAF	2F	0410	CPL	;IF ODD, INVERT
*4DB0	C9	0411	RET	;AND GO HOME
		0412	;	
		0413	;	
		0414	;	
		0415	;	DRAW EXPECTS TABLE ADDRESS IN HL
		0416	;	FIRST ENTRY IS NUMBER OF RECTANLGES TO DRAW
* >4DB1		0417	DRAW	
*4DB1	46	0418	LD	B,(HL)
*4DB2	C5	0419	DR1 PUSH	BC
*4DB3	23	0420	INC	HL
*4DB4	5E	0421	LD	E,(HL) ;GET X POS
*4DB5	23	0422	INC	HL
*4DB6	56	0423	LD	D,(HL) ;GET Y POS
*4DB7	23	0424	INC	HL
*4DB8	4E	0425	LD	C,(HL) ;GET X SIZE INFO
*4DB9	23	0426	INC	HL
*4DBA	46	0427	LD	B,(HL) ;Y SZ
		0428		;A IS SET COMING IN
*4DBB	FF	0429	DEFB	SYSTEM
*4DBC	1C	0430	DEFB	RECTAN
*4DBD	C1	0431	POP	BC
*4DBE	10F2	0432	DJNZ	DR1
*4DC0	C9	0433	RET	
		0434	;	
* >4DC1		0435	TIME	
*4DC1	21F84F	0436	LD	HL,GAMSTB ;SEE IF HOURS TO FLIP
*4DC4	CB7E	0437	BIT	7,(HL)
*4DC6	201A	0438	JR	NZ,TO ;DONE--FLIP
*4DC8	21ED4F	0439	LD	HL,GTSECS ;GET THE SECONDS COUNTER

ADDR	CODE	STMT	SOURCE STATEMENT
JCB	3ADC4F	0440	LD A, (CT7) ; CHECK SECONDS TRACKER
*4DCE	AE	0441	XOR (HL) ; SEE IF SAME
*4DCF	C8	0442	RET Z ; GO HOME IF SO
*4DD0	7E	0443	LD A, (HL) ; ELSE UPDATE SECONDS TRACKER
*4DD1	32DC4F	0444	LD (CT7), A
*4DD4	23	0445	INC HL ; CHECK MINS TRACKER
*4DD5	3ADA4F	0446	LD A, (CT5)
*4DD8	AE	0447	XOR (HL)
*4DD9	C4364E	0448	CALL NZ, SOUND
*4DDC	7E	0449	LD A, (HL)
*4DDD	32DA4F	0450	LD (CT5), A ; UPDATE TRACKER
*4DE0	1818	0451	JR T2 ; AND DISPLAY NEW TIME
*4DE2	3ADB4F	0452	LD A, (CT6) ; GET HOURS INFO
*4DE5	3C	0453	INC A ; INC HOURS
*4DE6	27	0454	DAA
*4DE7	FE13	0455	CP 13H
*4DE9	3802	0456	JR C, T1 ; IF A<13 MOVE ON
*4DEB	3E01	0457	LD A, 1
*4DED	32DB4F	0458	LD (CT6), A ; EITHER CASE, RESULT TO HRS
*4DF0	3E59	0459	LD A, 59H ; RESET MINUTES
*4DF2	32EE4F	0460	LD (GTMIN), A
*4DF5	32ED4F	0461	LD (GTSECS), A ; AND SECONDS
*4DF8	CBBE	0462	RES 7, (HL) ; CLEAR GAME OVER INFO
		0463	; CONTINUE
* >4DFA		0464	T2
* 4DFA	3ADB4F	0465	LD A, (CT6) ; GET HOURS INFO
JFD	2605	0466	LD H, YPOS-1 ; X POSITION
*4DFF	2E3C	0467	LD L, 60
*4E01	22C34F	0468	LD (COORD), HL
		0469	;
*4E04	FE10	0470	CP 10H ; A STILL HAS HRS INFO
*4E06	300A	0471	JR NC, T3
*4E08	F5	0472	PUSH AF ; SAVE HRS
*4E09	CD5124	0473	CALL SPACE
*4E0C	F1	0474	POP AF ; RESTORE HRS INFO
*4E0D	CDD423	0475	CALL NUMDIS ; DISPLAY IT
*4E10	1803	0476	JR T4
*4E12	CD5E24	0477	CALL RGDIS ; DISPLAY 2 DIGITS
*4E15	3E3A	0478	LD A, ':'
*4E17	D7	0479	DEFB DISP
*4E18	21EE4F	0480	LD HL, GTMIN
*4E1B	3E59	0481	LD A, 59H
*4E1D	96	0482	SUB (HL) ; ADJUST MINUTES FOR DISPLAY
*4E1E	CD5E24	0483	CALL RGDIS
*4E21	3E3A	0484	LD A, ':'
*4E23	D7	0485	DEFB DISP
*4E24	2B	0486	DEC HL ; TO GTSECS
*4E25	3E59	0487	LD A, 59H
*4E27	96	0488	SUB (HL) ; ADJUST
*4E28	CD5E24	0489	CALL RGDIS ; SHOW IT
*4E2B	ED5BC34F	0490	LD DE, (COORD) ; ERASE CURSOR
*4E2F	010305	0491	LD BC, 0503H ; 3X5 BOX
E32	AF	0492	XOR A ; COLOR 0
*4E33	FF	0493	DEFB SYSTEM
*4E34	1C	0494	DEFB RECTAN
*4E35	C9	0495	RET ; ALL DONE
		0496	;
* >4E36		0497	SOUND

ADDR	CODE	STMT	SOURCE	STATEMENT
336	E5	0498	PUSH	HL ;SAVE HL
*4E37	FF	0499	DEFB	SYSSUK ; START MUSIC
*4E38	13	0500	DEFB	BMUSIC+1
*4E39	124F	0501	DEFW	4F12H ;WHERE MUSIC STACK IS
*4E3B	C0	0502	DEFB	0COH ;INFO BYTE
*4E3C	404E'	0503	DEFW	SCORE
*4E3E	E1	0504	POP	HL
*4E3F	C9	0505	RET	;GO HOME
		0506		;
*>4E40		0507	SCORE	
*4E40	80	0508	DEFB	80H ;MASTER
*4E41	09	0509	DEFB	09H ;OSCIL. OFFSET
*4E42	B0	0510	DEFB	0B0H ;VOLUME
*4E43	09	0511	DEFB	09H ;VOL. B=0, VOL. A=9
*4E44	2F	0512	DEFB	2FH ;VOL. C=F, NOISE ON
		0513		;
*4E45	E0	0514	DEFB	0E0H ;LEGSTA
*4E46	04	0515	DEFB	04 ;NOTE LENGTH
*4E47	50	0516	DEFB	50H ;PITCH
*4E48	03	0517	DEFB	03 ;LENGTH
*4E49	4C	0518	DEFB	4CH ;PITCH
*4E4A	08	0519	DEFB	08 ;L
*4E4B	46	0520	DEFB	46H ;P
*4E4C	10	0521	DEFB	10H
*4E4D	45	0522	DEFB	45H
*4E4E	08	0523	DEFB	08
34F	46	0524	DEFB	46H
*4E50	02	0525	DEFB	02
*4E51	47	0526	DEFB	47H
*4E52	F0	0527	DEFB	0F0H ;QUIET
		0528		;
*>4E53		0529	TABAD	
*4E53	13	0530	DEFB	19 ;NO. OF RECTANS
*4E54	78	0531	DEFB	120 ;X POS
*4E55	31	0532	DEFB	49 ;YPOS
*4E56	18	0533	DEFB	24 ;X SZ
*4E57	01	0534	DEFB	1 ;Y SZ
		0535		;
*4E58	78390112	0536	DEFB	120,57,1,18
*4E5C	793D010E	0537	DEFB	121,61,1,14
*4E60	7A321401	0538	DEFB	122,50,20,1
*4E64	7A41010A	0539	DEFB	122,65,1,10
*4E68	7B331101	0540	DEFB	123,51,17,1
*4E6C	7B450106	0541	DEFB	123,69,1,6
*4E70	7C340F01	0542	DEFB	124,52,15,1
*4E74	7C460105	0543	DEFB	124,70,1,5
*4E78	7D350301	0544	DEFB	125,53,3,1
*4E7C	7D470104	0545	DEFB	125,71,1,4
*4E80	7E480203	0546	DEFB	126,72,2,3
*4E84	88350201	0547	DEFB	136,53,2,1
*4E88	91310104	0548	DEFB	145,49,1,4
*4E8C	92310103	0549	DEFB	146,49,1,3
390	93310302	0550	DEFB	147,49,3,2
*4E94	96310301	0551	DEFB	150,49,3,1
*4E98	81400501	0552	DEFB	129,64,5,1
*4E9C	82410301	0553	DEFB	130,65,3,1
		0554		;
*>4EA0		0555	TAB2	

ADDR	CODE	STMT	SOURCE	STATEMENT
EA0	02	0556	DEFB	2
*4EA1	7E3B0303	0557	DEFB	126,59,3,3
*4EA5	873B0303	0558	DEFB	135,59,3,3
		0559		;
*4EA9	76	0560	WAIT	HALT ;HOLD EVERYTHING
		0561		;INTERRUPT ROUTINE WILL CONTINUE FROM HERE
*4EAA	C9	0562		RET
		0563		;
		0564		;VECTOR BLOCK
*>4EAB		0565		VB
*4EAB	20	0566	VBMR	DEFB 20H ;MAGIC REGISTER
*4EAC	80	0567		DEFB 80H ;STATUS
*4EAD	00	0568	VBTB	DEFB 00 ;TIMEBASE
*4EAE	00	0569	VBDX	DEFB 00 ;DELTA X LOW
*4EAF	00	0570		DEFB 00 ;DELTA X HI
*4EB0	00	0571		DEFB 00 ;XPOS. LOW
*4EB1	00	0572	VBX	DEFB 00 ;XPOS. HI
*4EB2	03	0573		DEFB 03 ;X LIMIT CHECK
*4EB3	05	0574	VBDY	DEFB 05 ;DELTA Y LO
*4EB4	00	0575		DEFB 00 ;DELTA Y HI
*4EB5	00	0576		DEFB 00 ;Y POS LO
*4EB6	00	0577	VBY	DEFB 00 ;Y POS HI
*4EB7	03	0578		DEFB 03 ;Y CHECKS
		0579		;
		0580		;LIMIT TABLE
*4EB8	0C	0581	LT	DEFB XPOS+2 ;X LOWER LIMIT
EB9	8E	0582		DEFB XPOS+XDIM-(PATX*4) ;X UPPER
*4EBA	0D	0583		DEFB YPOS+7 ;Y LOWER
*4EBB	42	0584		DEFB YPOS+YDIM-PATY
		0585		;
		0586		;FISH PATTERN
*>4EBC		0587		PAT
*4EBC	0000	0588	DEFW	00 ;PATTERN OFFSET
*4EBE	02	0589	DEFB	PATX ;PATTERN X SIZE (BYTES)
		0590		;4 PIXELS PER BYTE
*4EBF	07	0591	DEFB	PATY ;Y SIZE (LINES)
*4EC0	4050	0592	DEFB	40H,50H
*4EC2	A2A8	0593	DEFB	0A2H,0A8H
*4EC4	5555	0594	DEFB	55H,55H
*4EC6	2AA1	0595	DEFB	2AH,0A1H
*4EC8	5515	0596	DEFB	55H,15H
*4ECA	A141	0597	DEFB	0A1H,41H
*4ECC	4054	0598	DEFB	40H,54H
		0599		;
		0600		;PATTERN 2: FACING THE OTHER WAY
*>4ECE		0601		PAT2
*4ECE	0000	0602	DEFW	00
*4ED0	02	0603	DEFB	PATX
*4ED1	07	0604	DEFB	PATY
*4ED2	0501	0605	DEFB	05H,01H
*4ED4	2A8A	0606	DEFB	2AH,8AH
*4ED6	5555	0607	DEFB	55H,55H
ED8	4AAB	0608	DEFB	4AH,0A8H
*4EDA	5455	0609	DEFB	54H,55H
*4EDC	414A	0610	DEFB	41H,4AH
*4EDE	1501	0611	DEFB	15H,01H
		0612		;
*4EE0	0000	0613	PATAD	DEFW 0 ;PATTERN ADDRESS TO USE

ADDR	CODE	STMT	SOURCE	STATEMENT
		0614	;PACKET TABLE	
4EE2	F04E	0615	PACTAB	DEFW PACK1
4EE4	F54E	0616		DEFW PACK2
4EE6	FA4E	0617		DEFW PACK3
4EE8	FF4E	0618		DEFW PACK4
4EEA	044F	0619		DEFW PACK5
4EEC	094F	0620		DEFW PACK6
4EEE	0E4F	0621		DEFW PACK7
		0622	;	
>4EF0		0623	PACK1	DEFS 5 ;5 BYTES OF INFO PER PACKET
>4EF5		0624	PACK2	DEFS 5
>4EFA		0625	PACK3	DEFS 5
>4EFF		0626	PACK4	DEFS 5
>4F04		0627	PACK5	DEFS 5
>4F09		0628	PACK6	DEFS 5
>4F0E		0629	PACK7	DEFS 5
		0630	;	
*>4F13		0631	COLMSK	;COLOR MASK STORAGE
		0632	;	
*>4F13		0633	END	

ADDR CODE STMT SOURCE STATEMENT

CROSS REFERENCE LISTING

SYMBOL	VALUE	TYPE	STMT	STATEMENT REFERENCES					
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
ACTINT	000E		0013	0191	0074				
BMSG	4BA9		0122	0097					
BMUSIC	0012		0014	0500					
CK2	4DA0		0398	0395					
CKFLOP	4D8E		0390	0351	0317				
CLEAR	2347		0034	0192	0139	0113	0072		
CMSG	4BDF		0130	0175					
COLMSK	4F13		0631						
COORD	4FC3		0043	0490	0468	0173	0160	0145	0141
CS1	4C18		0139	0179	0171	0158	0156		
CSA	4B79		0101	0112					
CSTRT	4C15		0138	0259	0252	0114			
CT5	4FDA		0047	0450	0446				
CT6	4FDB		0048	0465	0458	0452	0153		
CT7	4FDC		0049	0444	0440	0183	0168		
DISP	00D7		0032	0485	0479				
DR1	4DB2		0419	0432					
DRAW	4DB1		0417	0218	0215				
EMUSIC	0014		0015						
END	4F13		0633						
FILL	001A		0016						
	4D0A		0301	0346					
G2	4D2F		0326	0324					
GAMSTB	4FFB		0042	0436	0293				
GETNUM	004E		0024	0164	0149				
GO	4D05		0298	0347					
GTMINS	4FEE		0051	0480	0460				
GTSECS	4FED		0050	0461	0439	0180	0110	0079	
HIT	4FBD		0045						
HRMSG	4BD1		0126	0147					
INDEXB	005C		0027						
INDEXW	005A		0026	0359	0303	0283			
INIT	4B40		0064	0068					
IW1	4CD4		0267	0291					
KEYGET	2496		0040	0176					
LT	4EB8		0581	0335					
MCALL	0006		0012						
MINMSG	4BDB		0128	0162					
MODE	4FAD		0038	0196					
MOVEB	005E		0028						
MSKTD	007E		0031						
NUMDIS	23D4		0036	0475					
NUMPLY	4FF3		0041						
PACK1	4EF0		0623	0615					
PACK2	4EF5		0624	0616					
PACK3	4EFA		0625	0617					
PACK4	4EFF		0626	0618					
PACK5	4F04		0627	0619					
PACK6	4F09		0628	0620					
PACK7	4F0E		0629	0621					
PACT	4FB7		0052						
PACTAB	4EE2		0615	0360	0304	0284			
PAT	4EBC		0587	0394					
PAT2	4ECE		0601	0397					

ADDR	CODE	STMT	SOURCE	STATEMENT									
PATAD	4EE0		0613	0399	0352	0339							
PATX	0002		0058	0603	0589	0582							
PATY	0007		0059	0604	0591	0584							
PAWS	0050		0025	0104									
PMSG	4BA1		0120	0092									
POPT	4FC5		0044										
QUIT	0078		0030										
RANDEL	4DAB		0403	0386	0384	0279	0277						
RANGED	0076		0029	0404	0381	0273	0268						
RCALL	0004		0011										
RECTAN	001C		0017	0494	0430	0242	0236	0229	0224	0207			
RELAB1	003A		0022	0257									
RESTOR	002E		0020	0261									
RGDIS	245E		0037	0489	0483	0477							
SCORE	4E40		0507	0503									
SCRN	4FB8		0039	0069									
SHOTS	4FC6		0046										
SOUND	4E36		0497	0448									
SPACE	2451		0035	0473									
STRDIS	0034		0021	0094	0089	0084							
STRING	00DF		0033	0174	0161	0146	0142						
SYSSUK	00FF		0010	0499	0403	0380	0358	0332	0302	0282	0272		
-				0267	0222	0206	0163	0148	0103	0081	0073		
-													
SYSTEM	00FF		0009	0493	0429	0354	0342	0260	0256	0190			
)	4DE2		0452	0438									
T1	4DED		0458	0456									
T2	4DFA		0464	0451									
T3	4E12		0477	0471									
T4	4E15		0478	0476									
TAB2	4EA0		0555	0217									
TABAD	4E53		0529	0214									
TBFM	4B90		0118	0087									
TIME	4DC1		0435	0299									
TIMECK	4D7B		0375	0350									
TMSG	4BBA		0124	0143									
VB	4EAB		0565	0353	0334								
VBDX	4EAE		0569	0398	0391	0387	0368	0316	0278				
VBDY	4EB3		0574	0385	0371	0326	0321	0280					
VBMR	4EAB		0566										
VBTB	4EAD		0568	0330									
VBX	4EB1		0572	0362	0307	0271							
VBY	4EB6		0577	0365	0312	0276							
VECT	003E		0023	0333									
VWRIT	001E		0018	0355									
WAIT	4EA9		0560	0337									
WRITE1	4D52		0349	0345	0290								
WRITR	0020		0019	0343									
XDIM	008C		0056	0582	0269	0251	0243	0238	0232				
XPOS	000A		0053	0582	0581	0254	0243	0230	0055				
YPOS	060A		0055	0237	0225								
)IM	0043		0057	0584	0274	0253	0246	0231	0227				
YPOS	0006		0054	0584	0583	0466	0253	0244	0231	0055			

ERRORS=0000