

HISOFT GEN3M2 ASSEMBLER
ZX SPECTRUM

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Pass 1 errors: 00

10 * 'INBETWEENER'
20 * (C) 1985 PAUL RHODES
30 *
40 * MOVES (NUM) LINES FROM START TO FINISH POSITIONS
50 * IN (STEPS) EQUAL STEPS
60 *
70 * 16 BYTES OF DATA FOR EACH LINE:
80 * FLAG (INTERNAL)
90 * X,Y COORDINATES FOR START OF FIRST LINE
100 * X,Y COORDINATES FOR END OF FIRST LINE
110 * X,Y COORDINATES FOR START OF SECOND LINE
120 * X,Y COORDINATES FOR END OF SECOND LINE
130 * 3 SPARE BYTES

EA60	140	ORG	60000
EA60	150	ENT	\$
EA60 C3C3EB	160	JP	START
EA63 00	170	NEWPIC	DEFB 0
EA64 04	180	NUM	DEFB 4
EA65 50	190	STEPS	DEFB #50
EA66 00	200	MULTVA	DEFB 0
EA67 FF	210	INVFLG	DEFB #FF
EA68 50C3	220	DATA1	DEFW 50000
EA6A 3EBF	230	PIXAD	LD A,#BF
EA6C 90	240	SUB	B
EA6D 3823	250	JR	C,ERROR
EA6F 47	260	LD	B,A
EA70 0F	270	RRCA	
EA71 0F	280	RRCA	
EA72 0F	290	RRCA	
EA73 A9	300	XOR	C
EA74 E607	310	AND	7
EA76 A9	320	XOR	C
EA77 0F	330	RRCA	
EA78 0F	340	RRCA	
EA79 0F	350	RRCA	
EA7A 6F	360	LD	L,A
EA7B 78	370	LD	A,B
EA7C A7	380	AND	A
EA7D 1F	390	RRA	
EA7E 37	400	SCF	
EA7F 1F	410	RRA	
EAB0 A7	420	AND	A
EAB1 1F	430	RRA	
EAB2 AB	440	XOR	B
EAB3 E6F8	450	AND	#F8
EAB5 AB	460	XOR	B
EAB6 67	470	LD	H,A

EA87 79	480	LD	A,C
EA88 E607	490	AND	7
EA8A 3C	500	INC	A
EA8B 47	510	LD	B,A
EA8C 3E01	520	LD	A,1
EA8E 0F	530 PIXADL	RRCA	
EA8F 10FD	540	DJNZ	PIXADL
EA91 C9	550	RET	
EA92 FB	560 ERROR	EI	
EA93 CF	570	RST	8
EA94 0A	580	DEFB	10
EA95 E1	590 POPRET	POP	HL
EA96 C9	600	RET	
EA97 E5	610 DRAW	PUSH	HL
EA98 1611	620	LD	D,#11
EA9A 79	630	LD	A,C
EA9B 95	640	SUB	L
EA9C 2808	650	JR	Z,DRAWCO
EA9E 3008	660	JR	NC,DRAWB
EA90 ED44	670	NEG	
EA92 161F	680	LD	D,#1F
EA94 1802	690	JR	DRAWB
EA96 1610	700 DRAWCO	LD	D,#10
EA98 4F	710 DRAWB	LD	C,A
EA99 78	720	LD	A,B
EA9A 94	730	SUB	H
EA9B 47	740	LD	B,A
EA9C 280D	750	JR	Z,DRAWBO
EA9E 3011	760	JR	NC,DRAWCT
EA90 ED44	770	NEG	
EAB2 47	780	LD	B,A
EAB3 7A	790	LD	A,D
EAB4 E60F	800	AND	#0F
EAB6 F6F0	810	OR	#F0
EAB8 57	820	LD	D,A
EAB9 1806	830	JR	DRAWCT
EABB 7A	840 DRAWBO	LD	A,D
EABC E60F	850	AND	#0F
EABE 28D5	860	JR	Z,POPRET
EAC0 57	870	LD	D,A
EAC1 D9	880 DRAWCT	EXX	
EAC2 C1	890	POP	BC
EAC3 E5	900	PUSH	HL
EAC4 CD6AEA	910	CALL	PIXAD
EAC7 47	920	LD	B,A
EAC8 08	930	EX	AF,AF'
EAC9 4F	940	LD	C,A
EACA AE	950	XOR	(HL)
EACB A0	960	AND	B
EACC AE	970	XOR	(HL)
EACD 77	980	LD	(HL),A
EACE D9	990	EXX	
EACF 79	1000	LD	A,C
EAD0 B8	1010	CP	B
EAD1 3806	1020	JR	C,SETDN
EAD3 3E0F	1030	LD	A,#0F

EAD5	59	1040	LD	E,C
EAD6	48	1050	LD	C,B
EAD7	1803	1060	JR	DRAWC1
EAD9	3EF0	1070	SETDN	LD A,#F0
EADB	58	1080	LD	E,B
EADC	43	1090	DRAWC1	LD B,E
EADD	A2	1100	AND	D
EADE	67	1110	LD	H,A
EADF	78	1120	LD	A,B
EAE0	CB3F	1130	SRL	A
EAE2	6F	1140	LD	L,A
EAE3	7D	1150	DRAWLP	LD A,L
EAE4	81	1160	ADD	A,C
EAE5	3809	1170	JR	C,DIAG
EAE7	BB	1180	CP	E
EAE8	3006	1190	JR	NC,DIAG
EAEA	6F	1200	LD	L,A
EAEB	CD05EB	1210	CALL	MOVDDOT
EAEF	1809	1220	JR	DRPLOT
EAFO	93	1230	DIAG	SUB E
EAFL	6F	1240	LD	L,A
EAFL	EB	1250	EX	DE,HL
EAFL	CD05EB	1260	CALL	MOVDDOT
EAFL	D9	1270	EXX	
EAFL	EB	1280	EX	DE,HL
EAFL	D9	1290	EXX	
EAFL	79	1300	DRPLOT	LD A,C
EAFL	AE	1310	XOR	(HL)
EAFL	A0	1320	AND	B
EAFL	AE	1330	XOR	(HL)
EAFL	77	1340	LD	(HL),A
EAFL	D9	1350	EXX	
EAFL	10E2	1360	DJNZ	DRAWLP
EB01	D9	1370	EXX	
EB02	E1	1380	POP	HL
EB03	D9	1390	EXX	
EB04	C9	1400	RET	
EB05	7C	1410	MOVDDOT	LD A,H
EB06	D9	1420	EXX	
EB07	E60F	1430	AND	#0F
EB09	280F	1440	JR	Z,VERTI
EB0B	EA15EB	1450	JP	PE,LEFT
EB0E	CB08	1460	RRC	B
EB10	3008	1470	JR	NC,VERTI
EB12	2C	1480	INC	L
EB13	1805	1490	JR	VERTI
EB15	CB00	1500	LEFT	RLC B
EB17	3001	1510	JR	NC,VERTI
EB19	2D	1520	DEC	L
EB1A	D9	1530	VERTI	EXX
EB1B	7C	1540	LD	A,H
EB1C	D9	1550	EXX	
EB1D	E6F0	1560	AND	#F0
EB1F	C8	1570	RET	Z
EB20	E232EB	1580	JP	PD,MOVEUP
EB23	24	1590	INC	H

EB24	7C	1600	LD	A,H
EB25	E607	1610	AND	7
EB27	C0	1620	RET	NZ
EB28	7D	1630	LD	A,L
EB29	C620	1640	ADD	A,#20
EB2B	6F	1650	LD	L,A
EB2C	D8	1660	RET	C
EB2D	7C	1670	LD	A,H
EB2E	D608	1680	SUB	8
EB30	67	1690	LD	H,A
EB31	C9	1700	RET	
EB32	25	1710	MOVEUP	DEC H
EB33	7C	1720	LD	A,H
EB34	2F	1730	CPL	
EB35	E607	1740	AND	7
EB37	C0	1750	RET	NZ
EB38	7D	1760	LD	A,L
EB39	D620	1770	SUB	#20
EB3B	6F	1780	LD	L,A
EB3C	D8	1790	RET	C
EB3D	7C	1800	LD	A,H
EB3E	C608	1810	ADD	A,8
EB40	67	1820	LD	H,A
EB41	C9	1830	RET	
EB42	DD7E00	1840	MOVLIN	LD A,(IX)
EB45	DD360001	1850		LD (IX),1
EB49	A7	1860	AND	A
EB4A	2805	1870	JR	Z,NEWONE
EB4C	AF	1880	XOR	A
EB4D	08	1890	EX	AF,AF'
		1900	* Clear old image	
EB4E	CD57EB	1910	CALL	DRAWIT
EB51	CD66EB	1920	NEWONE	CALL MOVEIT
EB54	3EFF	1930	LD	A,#FF
EB56	08	1940	EX	AF,AF'
		1950	* Draw new image	
EB57	DD6E09	1960	DRAWIT	LD L,(IX+9)
EB5A	DD660A	1970		LD H,(IX+10)
EB5D	DD4E0B	1980		LD C,(IX+11)
EB60	DD460C	1990		LD B,(IX+12)
EB63	C397EA	2000	JP	DRAW
		2010	* Calculate coordinates for	
		2020	* new position of line	
EB66	0604	2030	MOVEIT	LD B,4
EB68	DD7E05	2040	MOVITL	LD A,(IX+5)
EB6B	DD9601	2050	SUB	(IX+1)
EB6E	0E00	2060	LD	C,0
EB70	3004	2070	JR	NC,MOVPT1
EB72	ED44	2080	NEG	
EB74	0E01	2090	LD	C,1
EB76	1600	2100	MOVPT1	LD D,0
EB78	5F	2110	LD	E,A
EB79	C5	2120	PUSH	BC
EB7A	3A66EA	2130	LD	A,(MULTVA)
EB7D	0608	2140	LD	B,8
EB7F	210000	2150	LD	HL,0

EB82	29	2160	MULTL1	ADD	HL,HL
EB83	07	2170		RLCA	
EB84	3001	2180		JR	NC,MULTC1
EB86	19	2190		ADD	HL,DE
EB87	10F9	2200	MULTC1	DJNZ	MULTL1
EB89	3A65EA	2210		LD	A,(STEPS)
EB8C	4D	2220		LD	C,L
EB8D	6C	2230		LD	L,H
EB8E	2600	2240		LD	H,0
EB90	57	2250		LD	D,A
EB91	1E00	2260		LD	E,0
EB93	060F	2270		LD	B,#0F
EB95	AF	2280		XOR	A
EB96	CB1A	2290		RR	D
EB98	CB1B	2300		RR	E
EB9A	87	2310	DIVLP	ADD	A,A
EB9B	CB11	2320		RL	C
EB9D	ED6A	2330		ADC	HL,HL
EB9F	ED52	2340		SBC	HL,DE
EBA1	3803	2350		JR	C,DIVC1
EBA3	3C	2360		INC	A
EBA4	1801	2370		JR	DIVC2
EBA6	19	2380	DIVC1	ADD	HL,DE
EBA7	10F1	2390	DIVC2	DJNZ	DIVLP
EBA9	C1	2400		POP	BC
EBAA	CB09	2410		RRC	C
EBAC	3002	2420		JR	NC,MOVPT2
EBAE	ED44	2430		NEG	
EBB0	DD8601	2440	MOVPT2	ADD	A,(IX+1)
EBB3	DD7709	2450		LD	(IX+9),A
EBB6	DD23	2460		INC	IX
EBB8	10AE	2470		DJNZ	MOVITL
EBBA	DD2B	2480		DEC	IX
EBBC	DD2B	2490		DEC	IX
EBBE	DD2B	2500		DEC	IX
EBC0	DD2B	2510		DEC	IX
EBC2	C9	2520		RET	
EBC3	F3	2530	START	DI	
EBC4	2A68EA	2540		LD	HL,(DATA1)
EBC7	ED4B63EA	2550		LD	BC,(NEWPIC)
		2560	* Set 'new image' flag for each line		
		2570	* B holds number of lines		
EBCB	71	2580	STLP1	LD	(HL),C
EBCC	111000	2590		LD	DE,#10
EBCF	19	2600		ADD	HL,DE
EBD0	10F9	2610		DJNZ	STLP1
EBD2	AF	2620		XOR	A
EBD3	3266EA	2630		LD	(MULTVA),A
		2640	* Main loop		
EBD6	3A64EA	2650	MLOOP	LD	A,(NUM)
EBD9	47	2660		LD	B,A
EBDA	DD2A68EA	2670		LD	IX,(DATA1)
EBDE	C5	2680	MLOOP2	PUSH	BC
EBDF	CD42EB	2690		CALL	MOVLIN
EBE2	111000	2700		LD	DE,#10
EBE5	DD19	2710		ADD	IX,DE

EBE7 C1	2720	POP	BC
EBE8 10F4	2730	DJNZ	MLOOP2
EBEA 3A66EA	2740	LD	A, (MULTVA)
EBED 3C	2750	INC	A
EBEE 3266EA	2760	LD	(MULTVA), A
EBF1 47	2770	LD	B, A
EBF2 3A65EA	2780	LD	A, (STEPS)
EBF5 B8	2790	CP	B
EBF6 30DE	2800	JR	NC, MLOOP
EBF8 FB	2810	EI	
EBF9 C9	2820	RET	

Pass 2 errors: 00

Table used: 511 from 554
Executes: 60000

EB38 70	1760	LD	A, L
EB39 0A20	1770	SLD	X, A
EB3A 0F	1780	LD	L, A
EB3C 09	1790	DEC	C
EB3E 7C	1800	LD	A, H
EB3F 0A08	1810	ADD	A, B
EB40 47	1820	LD	H, A
EB41 0F	1830	RET	
EB42 007000	1840		
EB43	1850		
EB44 0803	1860	JA	L, MLOOP
EB45 0F	1870	XOR	A
EB46 08	1880	ST	AF, AF
EB47	1890		
EB48 0037C8	1900		
EB49 0866C8	1910	CALL	GRAPH1
EB4A	1920	NEWOP	CALL
EB4B 0A0F	1930	LD	A, WP
EB4C 0F	1940	ST	AF, AF
EB4D	1950		
EB4E 0045C7	1960	GRAPH1	LD
EB4F 00450A	1970	LD	H, (11+10)
EB50 00450B	1980	LD	C, (11+11)
EB51 00450C	1990	LD	B, (11+12)
EB52 00376A	2000	CALL	GRAPH
EB53	2010		
EB54 0A0F	2020		
EB55 007E03	2030		
EB56 007E01	2040		
EB57 0800	2050		
EB58 0A0F	2060	JR	NC, MLOOP
EB59 0A0F	2070	DEC	
EB5A 0A0F	2080	LD	C, 1
EB5B 1600	2090	MOVPT1	LD
EB5C 0F	2100	LD	C, A
EB5D 0F	2110	PUSH	BC
EB5E 0A0F	2120	LD	A, (M2.TVA)
EB5F 0A0F	2130	LD	B, A
EB60 2100	2140	LD	H, A