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1 REM *****
2 REM *  Amstrad Basic Compiler  *
3 REM * (C) 1986  Stephen Devine *
4 REM *****
5 REM
1000 GOSUB 5140: 'Initialize
1010 GOSUB 1060: 'Compile
1020 GOSUB 5250: 'Terminate
1030 END
1040 '
1050 'Compile
1060 GOSUB 4610:a=&170: 'Intialize machine code
1070 n=256*PEEK(a+1)+PEEK(a):IF n=0 THEN 1140
1080 n=a+n:l=256*PEEK(a+3)+PEEK(a+2):IF l>999 THEN 1140
1090 x=2*l+j:POKE x,m-256*INT(m/256):POKE x+1,INT(m/256)
1100 IF m>(HIMEM-200) THEN ee=9:GOTO 5430: 'Error
1110 LOCATE 1,6:PRINT"COMPILING LINE:";:PRINT l
1120 GOSUB 4320:b=PEEK(p): 'Pre-process line
1130 WHILE p<q:GOSUB 1180:p=p+1:WEND:a=n:GOTO 1070
1140 IF e=0 THEN PRINT:PRINT"No END statement before Line 1000":GOTO 564
0
1150 RETURN
1160 '
1170 'Compile statement
1180 e=0:b=PEEK(p):IF b=1 THEN p=p+1:GOTO 1180
1190 IF b<128 THEN 2360
1200 IF b=165 THEN 2350 ELSE IF b=158 THEN 2410: 'LET,FOR
1210 IF b=176 THEN 2520 ELSE IF b=214 THEN 2550: 'NEXT,WHILE
1220 IF b=213 THEN 2600 ELSE IF b=161 THEN 2630: 'WEND,IF
1230 IF b=191 THEN 2690 ELSE IF b=204 THEN 2960: 'PRINT,SOUND
1240 IF b=153 OR b=154 THEN 3090: 'ENT,ENT
1250 IF b=192 OR b=197 THEN p=q+1:RETURN: 'REM
1260 GOSUB 4170:IF y>1 THEN 1420: 'Get no. of parameters
1270 IF b<>135 THEN 1300: 'CLG
1280 IF y=1 THEN GOSUB 3270:x=&CD7D:GOSUB 3230:x=&BBE4:GOSUB 3230
1290 POKE m,&CD:m=m+1:x=&BBD8:GOTO 3230
1300 IF b<>138 THEN 1340: 'CLS
1310 IF y=1 THEN GOSUB 3270:x=&CD7D:GOSUB 3230:POKE m,&B4:m=m+1:x=&F5BB
:GOSUB 3230
1320 POKE m,&CD:m=m+1:x=&BB6C:IF y=1 THEN GOSUB 3230:x=&CDF1:GOSUB 3230
:x=&BBB4
1330 GOTO 3230
1340 IF y=1 THEN 1420
1350 IF b=201 THEN x=&C9:GOTO 3200: 'RETURN
1360 IF b=208 THEN x=&FF3E:GOSUB 3230:POKE m,&CD:m=m+1:x=&BB63:GOTO 3230
: 'TAG
1370 IF b=209 THEN x=&CDAF:GOSUB 3230:x=&BB63:GOTO 3230: 'TAGOFF
1380 IF b=152 THEN e=-1:POKE m,&C3:m=m+1:x=c+&30:GOTO 3230: 'END
1390 IF b=134 THEN POKE m,&CD:m=m+1:x=c+&18:GOTO 3230: 'CLEAR
1400 IF b=202 THEN POKE m,&21:m=m+1:x=c+&220:GOSUB 3230:POKE m,&C3:m=m+1
:x=c+&10:GOTO 3230: 'RUN
1410 ee=1:GOTO 5430: 'Error
1420 IF y>2 THEN 1720
1430 IF b<>130 THEN 1470: 'BORDER
1440 GOSUB 3270:IF y=1 THEN x=&4D45:GOSUB 3230:GOTO 1460
1450 POKE m,&E5:m=m+1:GOSUB 3270:x=&45C1:GOSUB 3230
1460 POKE m,&CD:m=m+1:x=&BC38:GOTO 3230
1470 IF b<>186 THEN 1530: 'PAPER
1480 GOSUB 3270:IF y=1 THEN 1500
1490 x=&CD7D:GOSUB 3230:x=&BBB4:GOSUB 3230:POKE m,&F5:m=m+1:GOSUB 3270
1500 x=&CD7D:GOSUB 3230:x=&BB96
1510 IF y=2 THEN GOSUB 3230:x=&CDF1:GOSUB 3230:x=&BBB4
1520 GOTO 3230
1530 IF b<>187 THEN 1590: 'PEN
1540 GOSUB 3270:IF y=1 THEN 1560
1550 x=&CD7D:GOSUB 3230:x=&BBB4:GOSUB 3230:POKE m,&F5:m=m+1:GOSUB 3270
1560 x=&CD7D:GOSUB 3230:x=&BB90

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1570 IF y=2 THEN GOSUB 3230:x=&CDF1:GOSUB 3230:x=&BBB4
1580 GOTO 3230
1590 IF y=2 THEN 1730
1600 IF b<>131 THEN 1620: 'CALL
1610 GOSUB 3270:x=&21E5:GOSUB 3230:x=m+4:GOSUB 3230:x=&E9E3:GOTO 3230
1620 IF b<>173 THEN 1640: 'MODE
1630 GOSUB 3270:x=&CD7D:GOSUB 3230:x=&BC0E:GOTO 3230
1640 IF b<>160 THEN 1670: 'GOTO
1650 p=p+1:GOSUB 40B0:IF x<1 OR x>999 THEN ee=6:GOTO 5430: 'Error
1660 POKE m,&C3:m=m+1:GOTO 3230
1670 IF b<>159 THEN 1700: 'GOSUB
1680 p=p+1:GOSUB 40B0:IF x<1 OR x>999 THEN ee=6:GOTO 5430: 'Error
1690 POKE m,&CD:m=m+1:GOTO 3230
1700 IF b<>196 THEN ee=1:GOTO 5430: 'RELEASE
1710 GOSUB 3270:x=&CD7D:GOSUB 3230:x=&BCB3:GOTO 3230
1720 IF y>3 THEN 2200
1730 IF b<>162 THEN 1770: 'INK
1740 GOSUB 3270:POKE m,&E5:m=m+1:GOSUB 3270: 'Evaluate
1750 IF y=2 THEN x=&4D45 ELSE POKE m,&E5:m=m+1:GOSUB 3270:x=&45C1
1760 GOSUB 3230:x=&7DE1:GOSUB 3230:POKE m,&CD:m=m+1:x=&BC32:GOTO 3230
1770 IF b<>169 THEN 1840: 'LOCATE
1780 IF y=2 THEN 1800
1790 GOSUB 3270:x=&CD7D:GOSUB 3230:x=&BBB4:GOSUB 3230:POKE m,&F5:m=m+1
1800 GOSUB 3270:POKE m,&E5:m=m+1
1810 GOSUB 3270:x=&61C1:GOSUB 3230:POKE m,&CD:m=m+1:x=&BB75
1820 IF y=3 THEN GOSUB 3230:x=&CDF1:GOSUB 3230:x=&BBB4
1830 GOTO 3230
1840 IF b<>14B THEN 1890: 'DRAW
1850 GOSUB 3270:POKE m,&E5:m=m+1:GOSUB 3270:IF y=2 THEN 18B0
1860 POKE m,&E5:m=m+1:GOSUB 3270
1870 x=&CD7D:GOSUB 3230:x=&BBDE:GOSUB 3230:POKE m,&E1:m=m+1
1880 x=&CDD1:GOSUB 3230:x=&BBF6:GOTO 3230
1890 IF b<>149 THEN 1940: 'DRAWR
1900 GOSUB 3270:POKE m,&E5:m=m+1:GOSUB 3270:IF y=2 THEN 1930
1910 POKE m,&E5:m=m+1:GOSUB 3270
1920 x=&CD7D:GOSUB 3230:x=&BBDE:GOSUB 3230:POKE m,&E1:m=m+1
1930 x=&CDD1:GOSUB 3230:x=&BBF9:GOTO 3230
1940 IF b<>188 THEN 1990: 'PLOT
1950 GOSUB 3270:POKE m,&E5:m=m+1:GOSUB 3270:IF y=2 THEN 19B0
1960 POKE m,&E5:m=m+1:GOSUB 3270
1970 x=&CD7D:GOSUB 3230:x=&BBDE:GOSUB 3230:POKE m,&E1:m=m+1
1980 x=&CDD1:GOSUB 3230:x=&BBEA:GOTO 3230
1990 IF b<>1B9 THEN 2040: 'PLOT R
2000 GOSUB 3270:POKE m,&E5:m=m+1:GOSUB 3270:IF y=2 THEN 2030
2010 POKE m,&E5:m=m+1:GOSUB 3270
2020 x=&CD7D:GOSUB 3230:x=&BBDE:GOSUB 3230:POKE m,&E1:m=m+1
2030 x=&CDD1:GOSUB 3230:x=&BBED:GOTO 3230
2040 IF y<>2 THEN ee=1:GOTO 5430: 'Error
2050 IF b<>174 THEN 20B0: 'MOVE
2060 GOSUB 3270:POKE m,&E5:m=m+1:GOSUB 3270
2070 x=&CDD1:GOSUB 3230:x=&BBC0:GOTO 3230
2080 IF b<>175 THEN 2110: 'MOVER
2090 GOSUB 3270:POKE m,&E5:m=m+1:GOSUB 3270
2100 x=&CDD1:GOSUB 3230:x=&BBC3:GOTO 3230
2110 IF b<>190 THEN 2140: 'POKE
2120 GOSUB 3270:POKE m,&E5:m=m+1:GOSUB 3270
2130 x=&E17D:GOSUB 3230:x=&77:GOTO 3200
2140 IF b<>184 THEN 2170: 'ORIGIN x,y
2150 GOSUB 3270:POKE m,&E5:m=m+1:GOSUB 3270
2160 x=&CDD1:GOSUB 3230:x=&BBC9:GOTO 3230
2170 IF b<>216 OR b<>231 THEN ee=1:GOTO 5430: 'WINDOW SWAP
2180 GOSUB 3270:POKE m,&E5:m=m+1:GOSUB 3270
2190 x=&45C1:GOSUB 3230:POKE m,&CD:m=m+1:x=&BBB7:GOTO 3200
2200 IF y>5 THEN 2290
2210 IF b<>216 THEN ee=1:GOTO 5430: 'WINDOW
2220 GOSUB 3270: 'Evaluate
2230 IF y=5 THEN x=&CD7D:GOSUB 3230:x=&BBB4:GOSUB 3230:POKE m,&F5:m=m+1
2240 GOSUB 3270:x=&E52B:GOSUB 3230:GOSUB 3270:x=&E52B:GOSUB 3230
2250 GOSUB 3270:x=&E52B:GOSUB 3230:GOSUB 3270:x=&D12B:GOSUB 3230
2260 x=&61C1:GOSUB 3230:x=&51C1:GOSUB 3230:POKE m,&CD:m=m+1:x=&BB66
2270 IF y=5 THEN GOSUB 3230:x=&CDF1:GOSUB 3230:x=&BBB4
2280 GOTO 3230
2290 IF y<>6 THEN ee=1:GOTO 5430: 'Error
2300 IF b<>184 THEN ee=1:GOTO 5430: 'ORIGIN
2310 GOSUB 2150:GOSUB 3270:POKE m,&E5:m=m+1:GOSUB 3270
2320 x=&CDD1:GOSUB 3230:x=&BBCF:GOSUB 3230
2330 GOSUB 3270:POKE m,&E5:m=m+1:GOSUB 3270

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2340 x=&CDD1:GOSUB 3230:x=&BBD2:GOTO 3230
2350 p=p+1: 'LET
2360 IF PEEK(p)<>14 THEN ee=10:GOTO 5430: 'Error
2370 p=p+1:b=PEEK(p):IF b<&41 OR b>&74 THEN ee=3:GOTO 5430: 'Error
2380 v=2*(b-&41)+c+&150:p=p+1:IF PEEK(p)<>239 THEN ee=11:GOTO 5430: 'Error
or
2390 GOSUB 4170:IF y<>1 THEN ee=2:GOTO 5430: 'Error
2400 GOSUB 3270:POKE m,&22:m=m+1:x=v:GOTO 3230
2410 p=p+1:IF PEEK(p)<>14 THEN ee=12:GOTO 5430: 'FOR
2420 p=p+1:b=PEEK(p):IF b<&41 OR b>&5A THEN ee=3:GOTO 5430: 'Error
2430 v=2*(b-&41)+c+&150:p=p+1:IF PEEK(p)<>239 THEN ee=11:GOTO 5430: '
2440 GOSUB 3270:IF PEEK(p)<>236 THEN ee=15:GOTO 5430: 'TO
2450 x=&222B:GOSUB 3230:x=v:GOSUB 3230
2460 x=m:POKE m,&21:m=m+1:GOSUB 3230:POKE m,&E5:m=m+1
2470 GOSUB 4170:IF y<>1 THEN ee=2:GOTO 5430: 'Error
2480 GOSUB 3270:x=&5BED:GOSUB 3230:x=v:GOSUB 3230
2490 POKE m,&13:m=m+1:x=&53ED:GOSUB 3230:x=v:GOSUB 3230
2500 POKE m,&B7:m=m+1:x=&52ED:GOSUB 3230:x=&DAE1:GOSUB 3230
2510 u=u+2:POKE u,m-256*INT(m/256):POKE u+1,INT(m/256):m=m+2:x=&E5:GOTO
3200
2520 POKE m,&C9:m=m+1:x=256*PEEK(u+1)+PEEK(u):u=u-2: 'NEXT
2530 IF u<pp+600 THEN ee=17:GOTO 5430: 'Error
2540 POKE x,m-256*INT(m/256):POKE x+1,INT(m/256):RETURN
2550 GOSUB 4170:IF y<>1 THEN ee=2:GOTO 5430: 'WHILE
2560 x=m:POKE m,&21:m=m+1:GOSUB 3230:POKE m,&E5:m=m+1
2570 GOSUB 3270:x=&B57C:GOSUB 3230:x=&CAE1:GOSUB 3230
2580 w=w+2:POKE w,m-256*INT(m/256):POKE w+1,INT(m/256)
2590 m=m+2:x=&E5:GOTO 3200
2600 POKE m,&C9:m=m+1: 'WEND
2610 x=256*PEEK(w+1)+PEEK(w):w=w-2:IF w<pp+500 THEN ee=18:GOTO 5430: 'Error
ror
2620 POKE x,m-256*INT(m/256):POKE x+1,INT(m/256):RETURN
2630 GOSUB 4170:IF y<>1 THEN ee=2:GOTO 5430: 'IF
2640 GOSUB 3270:IF PEEK(p)<>235 THEN ee=16:GOTO 5430: 'THEN
2650 x=&B57C:GOSUB 3230:x=&320:GOSUB 3230:POKE m,&C3:m=m+1
2660 x=256*PEEK(n+3)+PEEK(n+2):GOTO 3230
2670 '
2680 'PRINT
2690 f=0:p=p+1:IF PEEK(p)<>35 THEN 2750: '#
2700 GOSUB 3270:x=&FE7D:GOSUB 3230:x=&2008:GOSUB 3230
2710 x=&3E06:GOSUB 3230:x=&3201
2720 GOSUB 3230:x=c+&141:GOSUB 3230:x=&CDAF:GOSUB 3230
2730 x=&BBB4:GOSUB 3230:POKE m,&F5:m=m+1
2740 f=-1:IF PEEK(p)=44 THEN p=p+1: '
2750 IF PEEK(p)=34 THEN 2830
2760 p=p-1:GOSUB 4170:IF y=0 THEN 2810
2770 IF y<>1 THEN ee=2:GOTO 5430: 'Error
2780 IF PEEK(p+1)<>255 OR PEEK(p+2)<>3 THEN 2800: 'CHR$
2790 p=p+2:GOSUB 3270:x=&CD7D:GOSUB 3230:x=c+&140:GOSUB 3230:GOTO 2810
2800 GOSUB 3270:POKE m,&CD:m=m+1:x=c+&FB:GOSUB 3230
2810 IF PEEK(p)<>59 THEN POKE m,&CD:m=m+1:x=c+&130:GOSUB 3230:p=p+1: 'C
RLF
2820 GOTO 2910
2830 POKE m,&CD:m=m+1:x=c+&D0:GOSUB 3230
2840 p=p+1:b=PEEK(p):IF b=34 THEN 2870
2850 IF b=1 OR b=0 THEN 2900
2860 POKE m,b:m=m+1:GOTO 2840
2870 p=p+1:b=PEEK(p):IF b=59 THEN 2900
2880 IF b<>1 AND b<>0 THEN ee=5:GOTO 5430: 'Error
2890 x=&A0D:GOSUB 3230
2900 x=0:GOSUB 3200
2910 IF f=0 THEN RETURN
2920 x=&32AF:GOSUB 3230:x=c+&141:GOSUB 3230
2930 x=&CDF1:GOSUB 3230:x=&BBB4:GOSUB 3230:f=0:RETURN
2940 '
2950 'SOUND
2960 GOSUB 4170:IF y<2 OR y>7 THEN ee=2:GOTO 5430: 'Error
2970 POKE m,&CD:m=m+1:x=c+&1D0:IF v>4 THEN x=c+&1DB
2980 GOSUB 3230:GOSUB 3270:x=&327D:GOSUB 3230:x=c+&20B:GOSUB 3230
2990 GOSUB 3270:POKE m,&22:m=m+1:x=c+&20B+3:GOSUB 3230
3000 IF y>2 THEN GOSUB 3270:POKE m,&22:m=m+1:x=c+&20B+7:GOSUB 3230
3010 IF y>3 THEN GOSUB 3270:x=&327D:GOSUB 3230:x=c+&20B+6:GOSUB 3230
3020 IF y>4 THEN GOSUB 3270:x=&327D:GOSUB 3230:x=c+&20B+1:GOSUB 3230
3030 IF y>5 THEN GOSUB 3270:x=&327D:GOSUB 3230:x=c+&20B+2:GOSUB 3230
3040 IF y>6 THEN GOSUB 3270:x=&327D:GOSUB 3230:x=c+&20B+5:GOSUB 3230
3050 POKE m,&21:m=m+1:x=c+&20B:GOSUB 3230
3060 POKE m,&CD:m=m+1:x=&BCAA:GOTO 3230

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3070 '
3080 'ENT or ENV
3090 GOSUB 4170:IF y<4 OR y>16 THEN ee=2:GOTO 5430: 'Error
3100 IF (y-1) MOD 3 <>0 THEN ee=2:GOTO 5430: 'Error
3110 POKE m,&3E:POKE m+1,y\3:m=m+2:POKE m,&32:m=m+1:x=c+&208:GOSUB 3230
3120 bb=b:GOSUB 3270:POKE m,&E5:m=m+1
3130 FOR k=0 TO (y\3)-1:FOR kk=1 TO 3
3140 GOSUB 3270:x=&327D:GOSUB 3230:x=3*k+kk+c+&208:GOSUB 3230:NEXT:NEXT
3150 x=&7DE1:GOSUB 3230:POKE m,&21:m=m+1:x=c+&208:GOSUB 3230:POKE m,&CD:
m=m+1
3160 IF bb=153 THEN x=&BCBF ELSE x=&BCBC: 'ENT or ENV
3170 GOTO 3230
3180 '
3190 'Compile single byte
3200 POKE m,x:m=m+1:RETURN
3210 '
3220 'Compile double byte
3230 IF x<0 THEN x=x+65536
3240 POKE m,x-256*(INT(x/256)):POKE m+1,INT(x/256):m=m+2:RETURN
3250 '
3260 'Compile expression
3270 ff=-1:s=pp+700:POKE s,0
3280 p=p+1:b=PEEK(p):IF b=35 THEN p=p+1:b=PEEK(p): '#'
3290 IF b=28 THEN ff=0:GOSUB 4080:POKE m,&21:m=m+1:GOSUB 3230:GOTO 3530
3300 IF b=14 THEN ff=0:GOSUB 4120:POKE m,&2A:m=m+1:GOSUB 3230:GOTO 3530
3310 IF b=40 THEN ff=-1:s=s+1:POKE s,0:GOTO 3280
3320 IF b=254 THEN 3350
3330 IF b<>255 THEN 3420
3340 p=p+1:b=PEEK(p)
3350 ff=-1:IF PEEK(p+1)=40 THEN 3410: '(
3360 IF b=67 THEN POKE m,&CD:m=m+1:x=c+&1C0:GOSUB 3230:GOTO 3280: '1NK
EYS
3370 IF b=69 THEN POKE m,&CD:m=m+1:x=c+&40:GOSUB 3230:GOTO 3280: 'RND
3380 IF b=71 THEN x=&C6CD:GOSUB 3230:x=&EBBB:GOSUB 3230:GOTO 3280: 'XP
OS
3390 IF b=72 THEN x=&C6CD:GOSUB 3230:x=&BB:GOSUB 3200:GOTO 3280: 'YPOS
3400 ee=7:GOTO 5430: 'Error
3410 s=s+1:POKE s,b:s=s+1:POKE s,40:p=p+1:GOTO 3280
3420 IF b<>245 OR ff=0 THEN 3440
3430 ff=0:POKE m,&21:m=m+1:x=0:GOSUB 3230:p=p-1:GOTO 3530
3440 IF b>=238 AND b<=253 THEN 3470
3450 IF b<>44 THEN 3480
3460 IF PEEK(s)<>40 THEN 3510
3470 ff=-1:POKE m,&E5:m=m+1:s=s+1:POKE s,b:GOTO 3280
3480 IF b<>41 THEN 3510
3490 ff=0:s=s-1:IF PEEK(s+1)=0 THEN 3530
3500 b=PEEK(s):s=s-1:GOSUB 3800:GOTO 3530
3510 IF b<>0 AND b<>1 AND b<>44 AND b<>59 AND b<>235 AND b<>236 THEN ee=
5:GOTO 5430: 'Error
3520 IF s=(pp+700) THEN RETURN ELSE ee=4:GOTO 5430: 'Error
3530 IF PEEK(s)=0 OR PEEK(s)=40 THEN 3280
3540 IF PEEK(s)=44 THEN IF PEEK(p+1)<>41 THEN 3280
3550 POKE m,&D1:m=m+1:b=PEEK(s):s=s-1:GOSUB 3580:GOTO 3530
3560 '
3570 'Compile arithmetic or relational operator
3580 IF b=44 THEN RETURN: ',
3590 IF b<238 OR b>253 OR b=248 THEN 3610
3600 ON b-237 GOTO 3620,3640,3660,3670,3680,3690,3700,3710,3720,3730,361
0,3730,3740,3750,3760,3770
3610 ee=14:GOTO 5430: 'Error
3620 POKE m,&AF:m=m+1: '>
3630 x=&52ED:GOSUB 3230:x=&6F17:GOSUB 3230:x=&26:GOTO 3230
3640 POKE m,&AF:m=m+1:x=&52ED:GOSUB 3230:x=&120:GOSUB 3230: '-
3650 x=&6F3C:GOSUB 3230:x=&26:GOTO 3230
3660 x=&AF13:GOSUB 3230:GOTO 3630: '>=
3670 x=&AFEB:GOSUB 3230:GOTO 3630: '<
3680 POKE m,&AF:m=m+1:x=&52ED:GOSUB 3230:x=&128:GOSUB 3230:GOTO 3650: '<
>
3690 POKE m,&EB:m=m+1:GOTO 3660: '<=
3700 x=&19:GOTO 3200: '+
3710 x=&B7EB:GOSUB 3230:x=&52ED:GOTO 3230: '-
3720 POKE m,&CD:m=m+1:x=c+&70:GOTO 3230: '*
3730 POKE m,&CD:m=m+1:x=c+&A0:GOTO 3230: '/ or \
3740 x=&A47A:GOSUB 3230:x=&7B67:GOSUB 3230:x=&6FA5:GOTO 3230: 'AND
3750 POKE m,&CD:m=m+1:x=c+&A0:GOSUB 3230:x=&EB:GOTO 3200: 'MOD
3760 x=&B47A:GOSUB 3230:x=&7B67:GOSUB 3230:x=&6FB5:GOTO 3230: 'OR
3770 x=&AC7A:GOSUB 3230:x=&7B67:GOSUB 3230:x=&6FAD:GOTO 3230: 'XOR

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3780 '
3790 'Compile function
3800 IF b<>254 THEN 3830: 'NOT
3810   x=&B57C:GOSUB 3230:x=&228:GOSUB 3230
3820   x=&FF3E:GOSUB 3230:x=&6F2F:GOSUB 3230:x=&26:GOTO 3230
3830 IF b<>30 THEN 3870: 'ABS
3840   x=&7CCB:GOSUB 3230:x=&728:GOSUB 3230
3850   x=&11:GOSUB 3230:x=&EB00:GOSUB 3230
3860   x=&EDB7:GOSUB 3230:x=&52:GOTO 3200
3870 IF b<>13 THEN 3910: 'JOY
3880   x=&CD5D:GOSUB 3230:x=&B824:GOSUB 3230
3890   x=&43CB:GOSUB 3230:x=&120:GOSUB 3230
3900   x=&266F:GOSUB 3230:x=0:GOTO 3200
3910 IF b=18 THEN x=&266E:GOSUB 3230:x=0:GOTO 3200: 'PEEK
3920 IF b<>20 THEN 3970: 'SGN
3930   x=&B57C:GOSUB 3230:x=&D28:GOSUB 3230
3940   x=&7CCB:GOSUB 3230:x=&620:GOSUB 3230
3950   x=&26:GOSUB 3230:x=&12E:GOSUB 3230
3960   x=&318:GOSUB 3230:x=&FF21:GOSUB 3230:x=&FF:GOTO 3200
3970 IF b<>120 AND b<>127 THEN 4020: 'POS or VPOS
3980   x=&CD7D:GOSUB 3230:x=&BBB4:GOSUB 3230
3990   x=&CDF5:GOSUB 3230:x=&BB78:GOSUB 3230
4000   x=&E5F1:GOSUB 3230:x=&B4CD:GOSUB 3230
4010   x=&E1BB:GOSUB 3230:IF b=120 THEN POKE m,&6C:m=m+1:x=&26:GOTO 3230
4020 IF b<>124 AND b<>125 THEN 4050: 'TEST or TESTR
4030   x=&F0CD:IF b=125 THEN x=&F3CD
4040   GOSUB 3230:x=&6FBB:GOSUB 3230:x=&26:GOTO 3230
4050 ee=7:GOTO 5430: 'Error
4060 '
4070 'Fetch Number
4080 IF PEEK(p)<>28 THEN ee=13:GOTO 5430: 'Error
4090 x=256*PEEK(p+2)+PEEK(p+1):p=p+2:RETURN
4100 '
4110 'Fetch Variable Address
4120 IF PEEK(p)<>14 THEN ee=12:GOTO 5430: 'Error
4130 x=PEEK(p+1):IF x<&41 OR x>&74 THEN ee=3:GOTO 5430: 'Error
4140 x=2*(x-&41)+c+&150:p=p+1:RETURN
4150 '
4160 'Count number of parameters
4170 y=0:x=p:z=0
4180 x=x+1:t=PEEK(x)
4190 IF t<>0 AND t<>1 THEN 4220
4200 IF p+1=x THEN RETURN
4210 ee=2:GOTO 5430: 'Error
4220 IF t=44 THEN ee=2:GOTO 5430: 'Error
4230 IF t=28 THEN x=x+2:GOTO 4280: 'number identifier
4240 IF t=&28 THEN z=z+1:GOTO 4280: '('
4250 IF t=&29 THEN z=z-1:GOTO 4280: ')'
4260 IF t=0 OR t=1 THEN 4290: 'eol or :
4270 IF z=0 THEN IF t=&2C THEN y=y+1:GOTO 4180
4280 x=x+1:t=PEEK(x):GOTO 4230
4290 IF z=0 THEN y=y+1:RETURN ELSE ee=4:GOTO 5430: 'Error
4300 '
4310 'Pre-process line
4320 p=pp:e=0:f=0:POKE p-1,0
4330 FOR i=a+4 TO n-1
4340   b=PEEK(i):IF PEEK(i-1)=255 THEN IF b=0 THEN b=30:GOTO 4570 ELSE 4
570
4350   IF b=34 THEN f=-1-f:GOTO 4570
4360   IF b=1 THEN f=0:GOTO 4570
4370   IF f=-1 THEN 4570
4380   IF b=32 THEN 4580 ELSE IF b=3 THEN b=2
4390   IF b=2 OR b=13 THEN 4410
4400   IF b<>11 AND b<>12 THEN 4470
4410     i=i+3:b=PEEK(i):IF b>=128 THEN t=0:GOTO 4440
4420     i=i+1:b=PEEK(i):IF b-128<>PEEK(i-1) THEN ee=3:GOTO 5430: 'Error
4430     t=26
4440     POKE p,14:p=p+1:b=b-128:IF b>&5A THEN b=b-&20
4450     b=b+t:IF b<&41 OR b>&74 THEN ee=3:GOTO 5430: 'Error
4460     GOTO 4570
4470   IF b<14 OR b>31 THEN 4570
4480   IF b>26 THEN 4520
4490     IF b<25 THEN x=b-14:GOTO 4560
4500     IF b=25 THEN i=i+1:x=PEEK(i):GOTO 4560
4510     b=28
4520   IF b<27 OR b>30 THEN ee=8:GOTO 5430: 'Error

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4530  i=i+1:x=256*PEEK(i+1)+PEEK(i):i=i+1
4540  IF b=29 THEN x=256*PEEK(x+4)+PEEK(x+3)
4550  IF x<(-32768) OR x>32767 THEN ee=8:GOTO 5430: 'Error
4560  POKE p,2B:p=p+1:POKE p,x-256*INT(x/256):p=p+1:b=INT(x/256)
4570  POKE p,b:p=p+1
4580  NEXT i:POKE p,0:q=p-1:p=pp:RETURN
4590  '
4600  'Initialize machine code
4610  PRINT:PRINT"Initializing Machine Code..."
4620  m=c
4630  x=&73ED:GOSUB 3230:x=c+&3C:GOSUB 3230:x=&DCD:GOSUB 3230:x=&22BD:GOS
UB 3230
4640  x=c+&3E:GOSUB 3230:x=&21:GOSUB 3200:x=c+&220:GOSUB 3230
4650  m=c+&10:x=&7BED:GOSUB 3230:x=c+&3C:GOSUB 3230:POKE m,&E5
4660  m=c+&18:x=&21:GOSUB 3200:x=c+&150:GOSUB 3230:x=&11:GOSUB 3200:x=c+&
151
4670  GOSUB 3230:x=&36:GOSUB 3230:x=&6701:GOSUB 3230:x=&ED00
4680  GOSUB 3230:x=&C9B0:GOSUB 3230
4690  m=c+&30:x=&7BED:GOSUB 3230:x=c+&3C:GOSUB 3230:POKE m,&C9
4700  m=c+&40:x=&2A:GOSUB 3200:x=c+&3E:GOSUB 3230:x=&29E5:GOSUB 3230:x=&2
929
4710  GOSUB 3230:GOSUB 3230:x=&D129:GOSUB 3230:x=&1119:GOSUB 3230:x=&29
4720  GOSUB 3230:x=&2219:GOSUB 3230:x=c+&3E:GOSUB 3230:POKE m,&C9
4730  m=c+&58:x=&7CCB:GOSUB 3230:x=&C4:GOSUB 3200:x=c+&60:GOSUB 3230:POKE
m,&C9
4740  m=c+&60:x=&4D44:GOSUB 3230:x=&21:GOSUB 3230:x=&B700:GOSUB 3230
4750  x=&42ED:GOSUB 3230:x=&C937:GOSUB 3230
4760  m=c+&70:x=&AC7A:GOSUB 3230:x=&CDF5:GOSUB 3230:x=c+&58:GOSUB 3230:x=
&CDEB
4770  GOSUB 3230:x=c+&58:GOSUB 3230:x=&7D4C:GOSUB 3230:x=&21:GOSUB 3230:x
=&600

4780  GOSUB 3230:x=&CB10:GOSUB 3230:x=&1F39:GOSUB 3230:x=&130:GOSUB 3230:
x=&EB19
4790  GOSUB 3230:x=&EB29:GOSUB 3230:x=&F510:GOSUB 3230:x=&17F1:GOSUB 3230
4800  x=&DC:GOSUB 3200:x=c+&60:GOSUB 3230:POKE m,&C9
4810  m=c+&A0:x=&AC7A:GOSUB 3230:x=&CDF5:GOSUB 3230:x=c+&58:GOSUB 3230:x=
&CDEB
4820  GOSUB 3230:x=c+&58:GOSUB 3230:x=&4D7C:GOSUB 3230:x=&21:GOSUB 3230:x
=&600

4830  GOSUB 3230:x=&CB10:GOSUB 3230:x=&1711:GOSUB 3230:x=&6AED:GOSUB 3230
:x=&52ED
4840  GOSUB 3230:x=&130:GOSUB 3230:x=&3F19:GOSUB 3230:x=&F310:GOSUB 3230:
x=&11CB
4850  GOSUB 3230:x=&5717:GOSUB 3230:x=&F159:GOSUB 3230:x=&DC17:GOSUB 3230
4860  x=c+&60:GOSUB 3230:x=&DCEB:GOSUB 3230:x=c+&60:GOSUB 3230:POKE m,&C9
4870  m=c+&D0:x=&7EE1:GOSUB 3230:x=&CD23:GOSUB 3230:x=c+&140:GOSUB 3230

4880  x=&20B7:GOSUB 3230:x=&E9F8:GOSUB 3230
4890  m=c+&E0:x=&2F3E:GOSUB 3230:x=&EDB7:GOSUB 3230:x=&3C42:GOSUB 3230:x=
&FB30
4900  GOSUB 3230:x=&FE09:GOSUB 3230:x=&2030:GOSUB 3230:x=&1502:GOSUB 3230
:x=&CDC0
4910  GOSUB 3230:x=c+&140:GOSUB 3230:x=&116:GOSUB 3230:POKE m,&C9
4920  m=c+&F8:x=&7CCB:GOSUB 3230:x=&828:GOSUB 3230:x=&CD:GOSUB 3200:x=c+&
58

4930  GOSUB 3230:x=&2D3E:GOSUB 3230:x=&CD:GOSUB 3200:x=c+&140:GOSUB 3230:
x=&16:GOSUB 3200:x=&100
4940  GOSUB 3230:x=&2710:GOSUB 3230:x=&CD:GOSUB 3200:x=c+&E0:GOSUB 3230:x
=&E801
4950  GOSUB 3230:x=&CD03:GOSUB 3230:x=c+&E0:GOSUB 3230:x=&6401:GOSUB 3230
4960  x=&CD00:GOSUB 3230:x=c+&E0:GOSUB 3230:x=&A01:GOSUB 3230:x=&CD00
4970  GOSUB 3230:x=c+&E0:GOSUB 3230:x=&101:GOSUB 3230:x=&1600:GOSUB 3230:
x=&CD01
4980  GOSUB 3230:x=c+&E0:GOSUB 3230:x=&203E:GOSUB 3230
4990  x=&CD:GOSUB 3200:x=c+&140:GOSUB 3230:POKE m,&C9
5000  m=c+&130:x=&D3E:GOSUB 3230:x=&CD:GOSUB 3200:x=c+&140:GOSUB 3230:x=&
3E:GOSUB 3200
5010  x=&CD0A:GOSUB 3230:x=c+&140:GOSUB 3230:POKE m,&C9
5020  m=c+&140:x=&1E:GOSUB 3230:x=&1BCB:GOSUB 3230:x=&5AD2:GOSUB 3230:x=&
F5BB

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5030 GOSUB 3230:x=&2BCD:GOSUB 3230:x=&F1BD:GOSUB 3230:POKE m,&C9
5040 m=c+&1C0:x=&9CD:GOSUB 3230:x=&38BB:GOSUB 3230:x=&2105:GOSUB 3230:x=
&FFFF

5050 GOSUB 3230:x=&318:GOSUB 3230:x=&266F:GOSUB 3230:x=&C900:GOSUB 3230
5060 m=c+&1D0:POKE m,&21:m=m+1:x=c+&1F8:GOSUB 3230:x=&618:GOSUB 3230
5070 m=c+&1DB:POKE m,&21:m=m+1:x=c+&1FB:GOSUB 3230:POKE m,&11:m=m+1:x=c+
&208

5080 GOSUB 3230:x=&901:GOSUB 3230:x=&ED00:GOSUB 3230:x=&C9B0:GOSUB 3230
5090 m=c+&1E8:FOR k=m TO m+8:POKE k,0:NEXT:m=c+&1EE:x=&1404:GOSUB 3230
5100 m=c+&1F8:FOR k=m TO m+8:POKE k,0:NEXT:m=c+&1FE:x=&140C:GOSUB 3230
5110 m=c+&220:RETURN
5120 '
5130 ' Initialize
5140 MODE 2:BORDER 13:INK 1,0:INK 0,13
5150 PRINT"Amstrad BASIC Compiler V1.0"
5160 PRINT"====="
5170 a=&170:n=256*PEEK(a+1)+PEEK(a):l=256*PEEK(a+3)+PEEK(a+2)
5180 IF n<0 OR l>=1000 THEN PRINT:PRINT"NO PROGRAM IN MEMORY!":GOTO 5640
5190 c=HIMEM-FRE("")+8000:IF c>(HIMEM-1000) THEN ee=9:GOTO 5430: 'Error
5200 pp=c-4000:p=pp:w=pp+500:u=pp+600:s=pp+700:)=pp+1000
5210 FOR i=w TO c+&30:POKE i,0:NEXT
5220 RETURN

5230 '
5240 ' Terminate
5250 IF u<>pp+600 THEN PRINT:PRINT"ERROR: FOR without NEXT":GOTO 5640
5260 IF w<>pp+500 THEN PRINT:PRINT"ERROR: WHILE without WEND":GOTO 5640
5270 PRINT:PRINT"Setting Jumps..."
5280 FOR i=c+&220 TO m-1
5290   b=PEEK(i):IF b<>&C3 AND b<>&CD THEN 5340
5300   l=256*PEEK(i+2)+PEEK(i+1):IF l<1 OR l>999 THEN 5340
5310   x=2*l+j:t=256*PEEK(x+1)+PEEK(x)
5320   IF t<(c+&220) OR t>=m THEN 5400
5330   POKE i+1,PEEK(x):POKE i+2,PEEK(x+1):i=i+2
5340 NEXT i
5350 PRINT:PRINT"Compilation completed.":PRINT
5360 PRINT"  START:";HEX$(c),c
5370 PRINT"    END:";HEX$(m-1),m-1
5380 PRINT"LENGTH:";HEX$(m-c),m-c
5390 PRINT:RETURN
5400 PRINT:PRINT "ERROR: Line";l;"does not exist":GOTO 5640
5410 '

5420 'Error routine
5430 PRINT:PRINT "ERROR: ";
5440 IF ee=1 THEN PRINT"Illegal Command";
5450 IF ee=2 THEN PRINT"Too many or insufficient arguments";
5460 IF ee=3 THEN PRINT"Illegal variable";
5470 IF ee=4 THEN PRINT"Incomplete expression";
5480 IF ee=5 THEN PRINT"Syntax error";
5490 IF ee=6 THEN PRINT"Line number out of range";
5500 IF ee=7 THEN PRINT"Illegal function";
5510 IF ee=8 THEN PRINT"Number out of range";
5520 IF ee=9 THEN PRINT"OUT OF MEMORY!";
5530 IF ee=10 THEN PRINT"Command or variable expected";
5540 IF ee=11 THEN PRINT"= expected";
5550 IF ee=12 THEN PRINT"Variable expected";
5560 IF ee=13 THEN PRINT"Number expected";
5570 IF ee=14 THEN PRINT"Illegal operator";
5580 IF ee=15 THEN PRINT"TO expected";
5590 IF ee=16 THEN PRINT"THEN expected";
5600 IF ee=17 THEN PRINT"NEXT without FOR";
5610 IF ee=18 THEN PRINT"WEND without WHILE";
5620 IF ee<1 OR ee>18 THEN PRINT"Unknown error";
5630 PRINT" in line";l
5640 PRINT:PRINT"COMPILATION ABORTED":PRINT
5650 END

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