Projektseminar "Schachcomputer und Computerschach"
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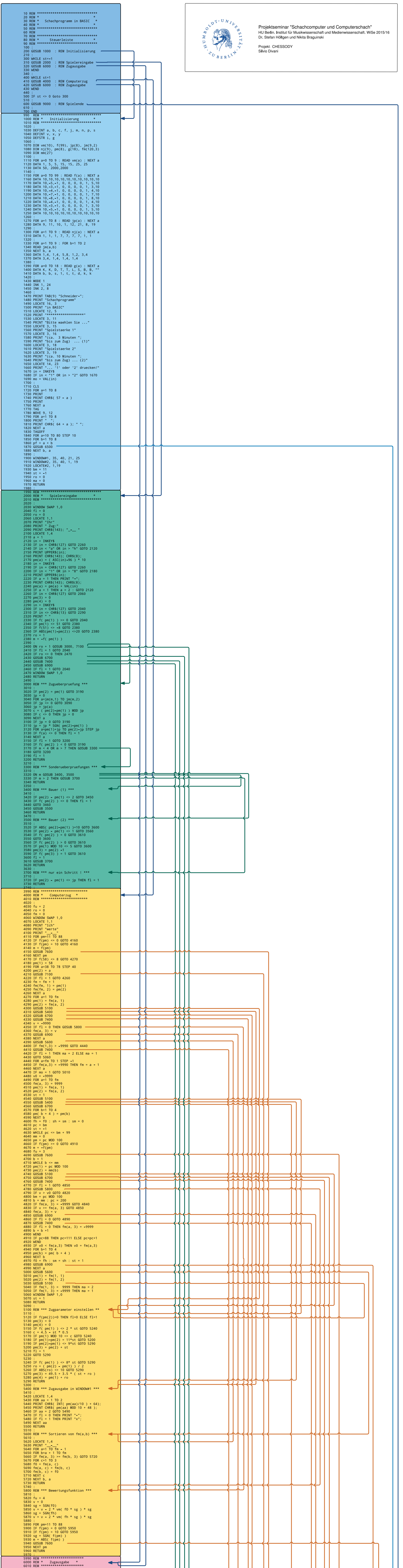
Projekt: CHESSODY
Silvio Divani



```
10 REM *******************************
20 REM *                             *
30 REM *   Schachprogramm in BASIC   *
40 REM *                             *
50 REM *******************************
60 REM
70 REM *******************************
80 REM *      Steuerleiste           *
90 REM *******************************
100 :
200 GOSUB 1000  : REM Initialisierung
210 :
300 WHILE st=-1
310 GOSUB 2000  : REM Spielereingabe
320 GOSUB 6000  : REM Zugausgabe
330 WEND
340 :
400 WHILE st=1
410 GOSUB 4000  : REM Computerzug
420 GOSUB 6000  : REM Zugausgabe
430 WEND
440 :
500 IF st <> 0 Goto 300
510 :
600 GOSUB 9000  : REM Spielende
610 :
700 END
990  REM *******************************
1000 REM *    Initialisierung        *
1010 REM *******************************
1020 :
1030 DEFINT a, b, c, f, j, m, n, p, s
1040 DEFINT v, x, y
1050 DEFSTR i, g
1060 :
1070 DIM vm(10), f(99), jp(8), jm(9,2)
1080 DIM nj(9), pm(8), g(18), fm(120,3)
1090 DIM mm(27)
1100 :
1110 FOR a=0 TO 9 : READ vm(a) : NEXT a
1120 DATA 1, 5, 5, 15, 15, 25, 25
1130 DATA 50, 2000,2000
1140 :
1150 FOR a=0 TO 99 : READ f(a) : NEXT a
1160 DATA 10,10,10,10,10,10,10,10,10,10
1170 DATA 10,-5,-1, 0, 0, 0, 0, 1, 5,10
1180 DATA 10,-3,-1, 0, 0, 0, 0, 1, 3,10
1190 DATA 10,-4,-1, 0, 0, 0, 0, 1, 4,10
1200 DATA 10,-7,-1, 0, 0, 0, 0, 1, 7,10
1210 DATA 10,-8,-1, 0, 0, 0, 0, 1, 8,10
1220 DATA 10,-4,-1, 0, 0, 0, 0, 1, 4,10
1230 DATA 10,-3,-1, 0, 0, 0, 0, 1, 3,10
1240 DATA 10,-5,-1, 0, 0, 0, 0, 1, 5,10
1250 DATA 10,10,10,10,10,10,10,10,10,10
1260 :
1270 FOR a=1 TO 8 : READ jp(a) : NEXT a
1280 DATA 9, 11, 10, 1, 12, 21, 8, 19
1290 :
1300 FOR a=1 TO 9 : READ nj(a) : NEXT a
1310 DATA 1, 1, 1, 7, 7, 7, 7, 1, 1
1320 :
1330 FOR a=1 TO 9 : FOR b=1 TO 2
1340 READ jm(a,b)
1350 NEXT b, a
1360 DATA 1,4, 1,4, 5,8, 1,2, 3,4
1370 DATA 3,4, 1,4, 1,4, 1,4
1380 :
1390 FOR a=0 TO 18 : READ g(a) : NEXT a
1400 DATA K, K, D, T, T, L, S, B, B, ""
1410 DATA b, b, s, 1, t, t, d, k, k
1420 :
1430 MODE 1
1440 INK 1, 24
1450 INK 2, 8
1460 :
1470 PRINT TAB(9) "Schneider-";
1480 PRINT "Schachprogramm"
1490 LOCATE 16, 3
1500 PRINT "in BASIC"
1510 LOCATE 12, 5
1520 PRINT "******************"
1530 LOCATE 3, 11
1540 PRINT "Bitte waehlen Sie ..."
1550 LOCATE 3, 15
1560 PRINT "Spielstaerke 1"
1570 LOCATE 3, 16
1580 PRINT "(ca.  3 Minuten ";
1590 PRINT "bis zum Zug)  ... (1)"
1600 LOCATE 3, 18
1610 PRINT "Spielstaerke 2"
1620 LOCATE 3, 19
1630 PRINT "(ca. 10 Minuten ";
1640 PRINT "bis zum Zug) ... (2)"
1650 LOCATE 14, 23
1660 PRINT "... '1' oder '2' druecken!"
1670 in = INKEY$
1680 IF in < "1" OR in > "2" GOTO 1670
1690 mo = VAL(in)
1700 :
1710 CLS
1720 FOR a=1 TO 8
1730 PRINT
1740 PRINT CHR$( 57 - a )
1750 PRINT
1760 NEXT a
1770 TAG
1780 MOVE 9, 12
1790 FOR a=1 TO 8
1800 PRINT "  ";
1810 PRINT CHR$( 64 + a ); " ";
1820 NEXT a
1830 TAGOFF
1840 FOR a=10 TO 80 STEP 10
1850 FOR b=1 TO 8
1860 pf = a + b
1870 GOSUB 6500
1880 NEXT b, a
1890 :
1900 WINDOW#1, 35, 40, 21, 25
1910 WINDOW#2, 35, 40, 1, 19
1920 LOCATE#2, 1,19
1930 bm = 11
1940 st = -1
1950 ro = 0
1960 ma = 0
1970 RETURN
1980 :
1990 REM *******************************
2000 REM *    Spielereingabe         *
2010 REM *******************************
2020 :
2030 WINDOW SWAP 1,0
2040 fl = 0
2050 ro = 0
2060 LOCATE 1,1
2070 PRINT "Ihr"
2080 PRINT " Zug:"
2090 PRINT CHR$(143); "_-__ "
2100 LOCATE 1,4
2110 a = 1
2120 in = INKEY$
2130 IF in = CHR$(127) GOTO 2260
2140 IF in < "a" OR in > "h" GOTO 2120
2150 PRINT UPPER$(in);
2160 PRINT CHR$(143); CHR$(8);
2170 pm(a) = ( ASC(in)-96 ) * 10
2180 in = INKEY$
2190 IF in = CHR$(127) GOTO 2260
2200 IF in < "1" OR in > "8" GOTO 2180
2210 PRINT UPPER$(in);
2220 IF a = 1 THEN PRINT "-";
2230 PRINT CHR$(143); CHR$(8);
2240 pm(a) = pm(a) + VAL(in)
2250 IF a = 1 THEN a = 2 : GOTO 2120
2260 IF in = CHR$(127) GOTO 2060
2270 pm(3) = 0
2280 pm(4) = 0
2290 in = INKEY$
2300 IF in = CHR$(127) GOTO 2040
2310 IF in <> CHR$(13) GOTO 2290
2320 PRINT " "
2330 IF f( pm(1) ) >= 0 GOTO 2040
2340 IF pm(1) <> 51 GOTO 2380
2350 IF f(51) <> -8 GOTO 2380
2360 IF ABS(pm(1)-pm(2)) <>20 GOTO 2380
2370 ro = 1
2380 m = -f( pm(1) )
2390 :
2400 ON ro + 1 GOSUB 3000, 7100
2410 IF fl = 1 GOTO 2040
2420 IF ro <> 0 THEN 2470
2430 GOSUB 6700
2440 GOSUB 7400
2450 GOSUB 6900
2460 IF fl = 1 GOTO 2040
2470 WINDOW SWAP 1,0
2480 RETURN
2490 :
3000 REM *** Zugueberpruefung ***
3010 :
3020 IF pm(2) = pm(1) GOTO 3190
3030 jp = 0
3040 FOR a=jm(m,1) TO jm(m,2)
3050 IF jp <> 0 GOTO 3090
3060 jp = jp(a)
3070 c = ( pm(2)-pm(1) ) MOD jp
3080 IF c <> 0 THEN jp = 0
3090 NEXT a
3100 IF jp = 0 GOTO 3190
3110 jp = jp * SGN( pm(2)-pm(1) )
3120 FOR a=pm(1)+jp TO pm(2)-jp STEP jp
3130 IF f(a) <> 0 THEN fl = 1
3140 NEXT a
3150 IF fl = 1 GOTO 3200
3160 IF f( pm(2) ) < 0 GOTO 3190
3170 IF m < 4 OR m > 7 THEN GOSUB 3300
3180 GOTO 3200
3190 fl = 1
3200 RETURN
3210 :
3300 REM *** Sonderueberpruefungen ***
3310 :
3320 ON m GOSUB 3400, 3500
3330 IF m > 2 THEN GOSUB 3700
3340 RETURN
3350 :
3400 REM *** Bauer (1) ***
3410 :
3420 IF pm(2) - pm(1) <> 2 GOTO 3450
3430 IF f( pm(2) ) <> 0 THEN fl = 1
3440 GOTO 3460
3450 GOSUB 3500
3460 RETURN
3470 :
3500 REM *** Bauer (2) ***
3510 :
3520 IF ABS( pm(2)-pm(1) )=10 GOTO 3600
3530 IF pm(2) - pm(1) <> 1 GOTO 3560
3540 IF f( pm(2) ) = 0 GOTO 3610
3550 GOTO 3600
3560 IF f( pm(2) ) > 0 GOTO 3610
3570 IF pm(1) MOD 10 <> 5 GOTO 3600
3580 pm(3) = pm(2) -1
3590 IF f( pm(3) ) = 1 GOTO 3610
3600 fl = 1
3610 GOSUB 3700
3620 RETURN
3630 :
3700 REM *** nur ein Schritt ! ***
3710 :
3720 IF pm(2) - pm(1) <> jp THEN fl = 1
3730 RETURN
3740 :
3990 REM ***********************
4000 REM *    Computerzug   *
4010 REM ***********************
4020 :
4030 fu = 2
4040 ro = 0
4050 fm = 0
4060 WINDOW SWAP 1,0
4070 LOCATE 1,1
4080 PRINT "Ich"
4090 PRINT "werte"
4100 PRINT "__-__"
4110 FOR pm=11 TO 88
4120 IF f(pm) <= 0 GOTO 4160
4130 IF f(pm) = 10 GOTO 4160
4140 m = f(pm)
4150 GOSUB 7600
4160 NEXT pm
4170 IF f(58) <> 8 GOTO 4270
4180 pm(1) = 58
4190 FOR a=38 TO 78 STEP 40
4200 pm(2) = a
4210 GOSUB 7100
4220 IF fl = 1 GOTO 4260
4230 fm = fm + 1
4240 fm(fm, 1) = pm(1)
4250 fm(fm, 2) = pm(2)
4260 NEXT a
4270 FOR a=1 TO fm
4280 pm(1) = fm(a, 1)
4290 pm(2) = fm(a, 2)
4300 GOSUB 5100
4310 GOSUB 5400
4320 GOSUB 6700
4330 GOSUB 7400
4340 v = -9990
4350 IF fl = 0 THEN GOSUB 5800
4360 fm(a, 3) = v
4370 GOSUB 6900
4380 NEXT a
4390 GOSUB 5600
4400 IF fm(1,3) > -9990 GOTO 4440
4410 GOSUB 7400
4420 IF fl = 1 THEN ma = 2 ELSE ma = 1
4430 GOTO 5060
4440 FOR a=fm TO 1 STEP -1
4450 IF fm(a,3) = -9990 THEN fm = a - 1
4460 NEXT a
4470 IF mo = 1 GOTO 5010
4480 v0 = -9999
4490 FOR a=1 TO fm
4500 fm(a, 3) = 9999
4510 pm(1) = fm(a, 1)
4520 pm(2) = fm(a, 2)
4530 st = 1
4540 GOSUB 5100
4550 GOSUB 5400
4560 GOSUB 6700
4570 FOR b=1 TO 4
4580 pm( b + 4 ) = pm(b)
4590 NEXT b
4600 fh = f0 : sh = sm : sm = 0
4610 pc = bm
4620 st = -1
4630 WHILE pc <= bm + 99
4640 mm = 0
4650 pm = pc MOD 100
4660 IF f(pm) >= 0 GOTO 4910
4670 m = -f(pm)
4680 fu = 3
4690 GOSUB 7600
4700 b = 1
4710 WHILE b <= mm
4720 pm(1) = pc MOD 100
4730 pm(2) = mm(b)
4740 GOSUB 5100
4750 GOSUB 6700
4760 GOSUB 7400
4770 IF fl = 1 GOTO 4850
4780 GOSUB 5800
4790 IF v > v0 GOTO 4820
4800 bm = pc MOD 100
4810 b = mm : pc = 200
4820 IF fm(a, 3) = -9999 GOTO 4840
4830 IF v >= fm(a, 3) GOTO 4850
4840 fm(a, 3) = v
4850 GOSUB 6900
4860 IF fl = 0 GOTO 4890
4870 GOSUB 7400
4880 IF fl = 0 THEN fm(a, 3) = -9999
4890 b = b +1
4900 WEND
4910 IF pc=88 THEN pc=111 ELSE pc=pc+1
4920 WEND
4930 IF v0 < fm(a,3) THEN v0 = fm(a,3)
4940 FOR b=1 TO 4
4950 pm(b) = pm( b + 4 )
4960 NEXT b
4970 f0 = fh : sm = sh : st = 1
4980 GOSUB 6900
4990 NEXT a
5000 GOSUB 5600
5010 pm(1) = fm(1, 1)
5020 pm(2) = fm(1, 2)
5030 GOSUB 5100
5040 IF fm(1, 3) =  9999 THEN ma = 2
5050 IF fm(1, 3) = -9999 THEN ma = 1
5060 WINDOW SWAP 1,0
5070 st = 1
5080 RETURN
5090 :
5100 REM *** Zugparameter einstellen **
5110 :
5120 IF f(pm(2))=0 THEN fl=0 ELSE fl=1
5130 pm(3) = 0
5140 pm(4) = 0
5150 IF f( pm(1) ) <> 2 * st GOTO 5240
5160 c = 4.5 - st * 0.5
5170 IF pm(1) MOD 10 <> c GOTO 5240
5180 IF pm(1)-pm(2) = 11*st GOTO 5200
5190 IF pm(2)-pm(1) <> 9*st GOTO 5290
5200 pm(3) = pm(2) + st
5210 fl = 1
5220 GOTO 5290
5230 :
5240 IF f( pm(1) ) <> 8* st GOTO 5290
5250 ro = ( pm(2) - pm(1) ) / 2
5260 IF ABS(ro) <> 10 GOTO 5290
5270 pm(3) = 49.5 + 3.5 * ( st + ro )
5280 pm(4) = pm(1) + ro
5290 RETURN
5300 :
5400 REM *** Zugausgabe in WINDOW#1 ***
5410 :
5420 LOCATE 1,4
5430 FOR aa = 1 TO 2
5440 PRINT CHR$( INT( pm(aa)/10 ) + 64);
5450 PRINT CHR$( pm(aa) MOD 10 + 48 );
5460 IF aa = 2 GOTO 5490
5470 IF fl = 0 THEN PRINT "-";
5480 IF fl = 1 THEN PRINT "x";
5490 NEXT aa
5500 RETURN
5510 :
5600 REM *** Sortieren von fm(a,b) ***
5610 :
5620 LOCATE 1,4
5630 PRINT "__-__"
5640 FOR a=1 TO fm - 1
5650 FOR b=a + 1 TO fm
5660 IF fm(a, 3) >= fm(b, 3) GOTO 5720
5670 FOR c=1 TO 3
5680 f0 = fm(a, c)
5690 fm(a, c) = fm(b, c)
5700 fm(b, c) = f0
5710 NEXT c
5720 NEXT b, a
5730 RETURN
5740 :
5800 REM *** Bewertungsfunktion ***
5810 :
5820 fu = 4
5830 v = 0
5840 sg = SGN(f0)
5850 v = v - 2 * vm( f0 * sg ) * sg
5860 sg = SGN(fh)
5870 v = v - 2 * vm( fh * sg ) * sg
5880 :
5890 FOR pm=11 TO 88
5900 IF f(pm) = 0 GOTO 5950
5910 IF f(pm) = 10 GOTO 5950
5920 sg = SGN( f(pm) )
5930 m = ABS( f(pm) )
5940 GOSUB 7600
5950 NEXT pm
5960 RETURN
5970 :
5990 REM **********************
6000 REM *    Zugausgabe    *
6010 REM **********************
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6020 :
6030 GOSUB 6700
6040 IF fm(1, 3) = -9990 GOTO 6430
6050 IF pm(4) = 0 THEN c = 3 ELSE c = 4
6060 IF pm(3) = 0 THEN c = 2
6070 FOR a=1 TO c
6080 pf = pm(a)
6090 GOSUB 6500
6100 NEXT a
6110 FOR a = 5 TO 8 STEP 3
6120 IF f( pm(2) ) <> a * st GOTO 6140
6130 f( pm(2) ) = a * st + st
6140 NEXT a
6150 c = 4.5 - st * 0.5
6160 FOR a=10 + c TO 80 + c STEP 10
6170 IF f(a) <> -st GOTO 6190
6180 f(a) = f(a) - st
6190 NEXT a
6200 c = c + st * 2
6210 IF f( pm(2) ) <> st GOTO 6250
6220 IF pm(2) MOD 10 <> c GOTO 6250
6230 f( pm(2) ) = f( pm(2) ) + st
6240 :
6250 WINDOW SWAP 2,0
6260 IF pm(4) <> 0 GOTO 6380
6270 fl = 0
6280 IF f0 <> 0 OR pm(3) <> 0 THEN fl=1
6290 FOR a=1 TO 2
6300 PRINT CHR$( INT( pm(a)/10 ) + 64);
6310 PRINT CHR$( pm(a) MOD 10 + 48 );
6320 IF a = 2 GOTO 6350
6330 IF fl =  0 THEN PRINT "-";
6340 IF fl <> 0 THEN PRINT "x";
6350 NEXT a
6360 PRINT
6370 GOTO 6400
6380 IF ro = -10 THEN PRINT "0-0-0"
6390 IF ro =  10 THEN PRINT " 0-0 "
6400 IF st = 1 THEN PRINT
6410 WINDOW SWAP 2,0
6420 st = -st
6430 sm = 0
6440 IF ma > 0 THEN st = 0
6450 RETURN
6460 :
6500 REM *** Schachfeld setzen ***
6510 :
6520 x = INT( pf / 10 )
6530 y = pf MOD 10
6540 PAPER#3, ( ( x + y ) MOD 2 ) * 2
6550 x = 4 * x - 2
6560 y = 25 - 3 * y
6570 WINDOW#3, x, x + 3, y, y + 2
6580 WINDOW SWAP 3,0
6590 CLS
6600 PEN 1
6610 LOCATE 2, 2
6620 PRINT g( f(pf) + 9 )
6630 WINDOW SWAP 3,0
6640 RETURN
6650 :
6700 REM *** Interne Zugausfuehrung ***
6710 :
6720 IF pm(3) = 0 GOTO 6760
6730 IF pm(4) = 0 GOTO 6750
6740 f( pm(4) ) = f( pm(3) )
6750 f( pm(3) ) = 0
6760 f0 = f( pm(2) )
6770 f( pm(2) ) = f( pm(1) )
6780 f( pm(1) ) = 0
6790 c = 4.5 - st * 3.5
6800 IF pm(2) MOD 10 <> c GOTO 6840
6810 IF f( pm(2) ) <> 2 * st GOTO 6840
6820 sm = 1
6830 f( pm(2) ) = 7 * st
6840 RETURN
6850 :
6900 REM *** Interne Zugzuruecknahme **
6910 :
6920 IF pm(3) = 0 GOTO 6980
6930 IF pm(4) = 0 GOTO 6970
6940 f( pm(3) ) = 5 * st
6950 f( pm(4) ) = 0
6960 GOTO 6980
6970 f( pm(3) ) = -1 * st
6980 f( pm(1) ) = f( pm(2) )
6990 f( pm(2) ) = f0
7000 IF sm = 0 GOTO 7030
7010 sm = 0
7020 f( pm(1) ) = 2 * st
7030 RETURN
7040 :
7100 REM *** Rochadeueberpruefung ***
7110 :
7120 fu = 1
7130 fl = 0
7140 ro = SGN( pm(2) - pm(1) ) * 10
7150 pm(3) = 49.5 + 3.5 * ( st + ro )
7160 pm(4) = pm(1) + ro
7170 IF f( pm(3) ) <> 5 * st GOTO 7310
7180 FOR aa=pm(4) TO pm(3)-ro STEP ro
7190 IF f(aa) <> 0 THEN fl = 1
7200 NEXT aa
7210 IF fl = 1 GOTO 7320
7220 FOR ba=pm(1) TO pm(3) STEP ro
7230 FOR m=3 TO 9
7240 IF fl = 0 THEN pm=ba : GOSUB 7600
7250 NEXT m
7260 FOR aa=1 TO 2
7270 pm = st * ( jp(aa) - (aa-1) * 22 )
7280 IF f(pm + ba) = -2 * st THEN fl=1
7290 NEXT aa, ba
7300 GOTO 7320
7310 fl = 1
7320 RETURN
7330 :
7400 REM *** Koenig im Schach ? ***
7410 :
7420 fu = 1
7430 fl = 0
7440 FOR aa=11 TO 88
7450 FOR ba=8 TO 9
7460 IF f(aa) = st * ba THEN pm = aa
7470 NEXT ba, aa
7480 FOR m=3 TO 9
7490 IF fl = 0 THEN GOSUB 7600
7500 NEXT m
7510 FOR aa=1 TO 2
7520 c = st * ( jp(aa) - (aa-1) * 22 )
7530 IF f(pm + c) = -1 * st THEN fl=1
7540 IF f(pm + c) = -2 * st THEN fl=1
7550 NEXT aa
7560 RETURN
7570 :
7600 REM *** Feldbestimmung ***
7610 :
7620 FOR bb=-1 TO 1 STEP 2
7630 FOR ab=jm(m,1) TO jm(m,2)
7640 c = pm + jp(ab) * nj(m) * bb
7650 pf = pm
7660 pf = pf + jp(ab) * bb
7670 IF pf < 11 OR pf > 88 GOTO 7730
7680 IF SGN(f(pf))=SGN(f(pm)) GOTO 7730
7690 IF f(pf) = 10 GOTO 7730
7700 ON fu GOSUB 7800, 7900, 8200, 8500
7710 IF pf = c GOTO 7730
7720 IF f(pf) = 0 GOTO 7660
7730 NEXT ab
7740 NEXT bb
7750 RETURN
7760 :
7800 REM *** Feldueberpruefung ***
7810 :
7820 IF f(pf) = -m * st THEN fl = 1
7830 RETURN
7840 :
7900 REM *** Zugerzeuger Computerzug **
7910 :
7920 IF m > 2 GOTO 8080
7930 IF pm - pf <> 1 GOTO 8020
7940 IF f(pf) <> 0 GOTO 8110
7950 IF m = 2 GOTO 8080
7960 IF f( pf - 1 ) <> 0 GOTO 8080
7970 fm = fm + 1
7980 fm(fm, 1) = pm
7990 fm(fm, 2) = pf -1
8000 GOTO 8080
8010 :
8020 IF pm - pf = 11 GOTO 8040
8030 IF pf - pm <> 9 GOTO 8110
8040 IF pm MOD 10 <> 4 GOTO 8070
8050 IF f( pf + 1 ) <> -1 GOTO 8070
8060 IF f(pf) = 0 THEN 8080 ELSE 8110
8070 IF f(pf) >= 0 GOTO 8110
8080 fm = fm + 1
8090 fm(fm, 1) = pm
8100 fm(fm, 2) = pf
8110 RETURN
8120 :
8200 REM *** Zugerzeuger Spielerzug ***
8210 :
8220 IF m > 2 GOTO 8380
8230 IF pf - pm <> 1 GOTO 8320
8240 IF f(pf) <> 0 GOTO 8400
8250 IF m = 2 GOTO 8380
8260 IF f( pf + 1 ) <> 0 GOTO 8380
8270 IF pm MOD 10 <> 2 GOTO 8380
8280 mm = mm + 1
8290 mm(mm) = pf + 1
8300 GOTO 8380
8310 :
8320 IF pf - pm = 11 GOTO 8340
8330 IF pm - pf <> 9 GOTO 8400
8340 IF pm MOD 10 <> 5 GOTO 8370
8350 IF f( pf - 1 ) <> 1 GOTO 8370
8360 IF f(pf) = 0 THEN 8380 ELSE 8400
8370 IF -f(pf) >= 0 GOTO 8400
8380 mm = mm + 1
8390 mm(mm) = pf
8400 RETURN
8410 :
8500 REM *** Positionswertung ***
8510 :
8520 IF m > 2 GOTO 8670
8530 IF pm - pf <> sg GOTO 8600
8540 IF f(pf) <> 0 GOTO 8680
8550 IF m = 2 GOTO 8670
8560 IF f( pf - sg ) <> 0 GOTO 8670
8570 v = v + sg * vm(0)
8580 GOTO 8670
8590 :
8600 IF pm - pf = 11 * sg GOTO 8630
8610 IF pf - pm <> 9 * sg GOTO 8680
8620 c0 = 4.5 - 0.5 * sg
8630 IF pm MOD 10 <> c0 GOTO 8660
8640 IF f( pf + sg ) <> -sg GOTO 8660
8650 IF f(pf) = 0 THEN 8670 ELSE 8680
8660 IF f(pf) * sg >= 0 GOTO 8680
8670 v = v + sg * vm( ABS( f(pf) ) )
8680 RETURN
8690 :
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```
8990 REM ******************************
9000 REM *         Spielende          *
9010 REM ******************************
9020 :
9030 WINDOW SWAP 1,0
9040 CLS
9050 PRINT
9060 IF ma = 1 THEN PRINT "PATT!"
9070 IF ma = 2 THEN PRINT "MATT!"
9080 PRINT
9090 RETURN
```

G.O. Hamann · J.-J. Eden

BASIC-Schachprogramm schreiben mit Schneider

CPC 464
CPC 664
CPC 6128

DBV DEUTSCHER BETRIEBSWIRTE-VERLAG GMBH