



## Can you crack the secret code?

Turn Grumpies into Smilies in ROLAND WADDILOVE's guessing game

**F**IVE Grumpies are standing behind a wall. Can you find out what colours they are and their order? You can choose how many different colours the Grumpies may be and you can have up to 10 guesses.

Pressing one of the number keys places a coloured Smiley and DEL will delete the last one. When you have entered a row of five Smilies your guess is marked. A black peg is given for the right colour in the right place, and a white peg for the right colour in the wrong place.

Many of you will have guessed the game it is based on. If you haven't it is very easy to learn and great fun to play, but frustrating when you can't work out the code!

The program is fully structured with no confusing GOTOs. Lines 30 to 50 run the program, calling the various subroutines when necessary. Each of the subroutines has been labelled with a REM statement and they are separated by lines with a single colon.

| 1 2 3 4 5 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | DEL |
|-----------|---|---|---|---|---|---|---|---|---|---|-----|
| 10        |   |   |   |   |   |   |   |   |   |   |     |
| 20        |   |   |   |   |   |   |   |   |   |   |     |
| 30        |   |   |   |   |   |   |   |   |   |   |     |
| 40        |   |   |   |   |   |   |   |   |   |   |     |
| 50        |   |   |   |   |   |   |   |   |   |   |     |
| 60        |   |   |   |   |   |   |   |   |   |   |     |
| 70        |   |   |   |   |   |   |   |   |   |   |     |
| 80        |   |   |   |   |   |   |   |   |   |   |     |
| 90        |   |   |   |   |   |   |   |   |   |   |     |
| 0         |   |   |   |   |   |   |   |   |   |   |     |



## VARIABLES

|                  |                                      |
|------------------|--------------------------------------|
| code (S)         | The secret code.                     |
| guess (M)        | Your guess.                          |
| markedguess (S)  | Whether your guess has been marked.  |
| markedanswer (S) | Whether your answer has been marked. |
| level            | Used in loops.                       |
| guesses          | Number of colours.                   |
| correct          | Number of guesses made.              |
| is               | Number correct.                      |
| is               | Key pressed.                         |
| is               | General variable.                    |

```

30 REM ** Secret Code **
31 REM #by R.A. Smith/rev
32 REM I
40 GOSUB 1440
50 REM 0
60 GOSUB 140
70 REM 10-12
80 GOSUB 140000 140000 710
90 REM 1 correct:0 AND guesses:0
100 GOSUB 700:GOSUB 740
110 REM
120 GOSUB 1220
130 REM
140 SPEED KEY 25.3
150 REM 1:00 1.3:1:00
160 REM
170 :
180 REM ** initialize **
190 SPEED KEY 225.225
200 REM 1,10,1,1
210 REM 1,10,-1,1
220 REM 1,100,-1,1,1,1,1,1,1,1
230 REM 1,100,-1,1,1,1,1,1,1,1
240 REM 200,120,124,124,124,124,124,124,124,124
250 REM code(S),guess(S),markedguess(I)

```

```

30:arraystems(S)
260 REM 12-0 10 10
270 REM 12:00 12:00 12,12
280 REM
290 REM
300 REM
310 :
320 REM 1,2,3,10,11,12,17,24,7,10,12
330 REM 14,1,10,12,8
340 :
350 REM ** print board **
360 CLEAR SCREEN:GOTO 310
370 PRINT " Secret Code"PRINT
380 REM 10
390 FOR I=10 TO 1 STEP -1:PRINT chr(
400:GOTO
390 FOR I=10:GOTO 1,1,1:GOTO 340
410 FOR I=10 TO 10 STEP 2
420 REMTIME 200:GOTO 340:GOTO 340
430 REM
440 GOTO 340:GOTO 340
450 REM markedguess 2,12:PRINT " ? ? ? ?"
460 :
470 LOCATE 1,12:FOR I=PRINT "key":
480 FOR I=1 TO level
490 FOR I:PRINT 12:GOTO 460

```

## SUBROUTINES

|                 |  |
|-----------------|--|
| Initialize      | Defines the tone and volume envelopes and the character for the peg. Clears the arrays, sets the colours and switches off the auto repeat. |
| Print board     | Character for the board are in data statements. Just the keys and colours used.  |
| Read & Print    | Called to read the data statements and print the board.  |
| Set variables   | Set guesses, correct, and level.   |
| Set code        | Make up the secret code.   |
| Input guess     | Type in your guess placing \$miley. Delete the last \$miley if DEL is pressed.   |
| Check guess     | Mark your guess, and if it is correct, ... if the right colour is in the right place.  |
| Award blank peg | ... if the right colour is in the wrong place.   |
| Award white peg | Print the message and make an appropriate sound. Show the secret code. Ask if you want to play again.                                      |
| Game over       | Print the instructions.  |
| Instructions    |  |

```

400 REM
410 REM
500 :
510 REM 120,120,120,120,120,120,120,120,120,120
520 REM 120,120,120,120,120,120,120,120,120,120
530 REM 120,120,120
540 REM 140,140,140,140,140,140,140,140,140,140
550 REM 140,140,140,140,140,140,140,140,140,140
560 REM 140,140,140,140,140,140,140,140,140,140
570 REM 140,140,140,140,140,140
580 :
590 REM ** read & print **
600 FOR I=1 TO 20
610 READ I:PRINT CHR(I);
620 REM
630 REM
640 :
650 REM ** set variables **
660 guesses=0:correct=0:level=0
670 CLEAR SCREEN:GOTO 2,1
680 PRINT "How many colours?"
690 LOCATE 2,10:PRINT "Press 4 - 7"

```



```

148 WHILE level% OF level%
149 level:=level+1
150 END
151 RETURN
152 :
153 REM ** set code **
154 RANDOMIZE TIME
155 FOR I=1 TO 5
156 code(I)=INT(RND*level)+1
157 NEXT
158 RETURN
159 :
160 REM ** input guess **
161 WHILE INPUT>0 AND
162 guess<compass+1
163 LOCATE 3,20:compass
164 GOTO
165 WHILE I=0
166 I:=I+1
167 GOTO
168 WHILE NOT (I=0 OR I=COMPASS+1)
169 IF (I<0) AND (I=COMPASS) THEN I=
170 COMPASS+COMPASS+1:COMPASS:=I+1
171 :
172 END
173 SOUND 4,20,5
174 FOR I=1 TO 5
175 PRINT CHR$(20+CHR$(I))
176 guess(I)=0
177 END
178 RETURN
179 :
180 REM ** check guess **
181 FOR I=1 TO 5
182 IF guess(I)=code(I) THEN SOUND
183 1200:WRITELINE I:WRITELINE
184 guess(I)
185 NEXT
186 IF correct=0 THEN RETURN
187 correct=0
188 FOR I=1 TO 5
189 FOR J=1 TO 5
190 IF guess(J)=code(I) AND correct
191 =0 AND WRITELINE I:WRITELINE
192 I:CORRECT:=I
193 NEXT
194 RETURN
195 :
196 REM ** award black peg **
197 FOR I=PRINT CHR$(20+
198 I:correct=correct+1
199 WRITELINE I:WRITELINE
200 correct=correct+1
201 FOR J=1 TO CORRECT
202 NEXT

```

```

203 :
204 LOCATE 1,20:FOR I=1 TO 5
205 PRINT "  Award game 1 ",I:GOTO
206 WHILE I=0
207 I:=I+1 AND INPUT>0:GOTO
208 RETURN
209 :
210 REM ** instructions **
211 FOR I=1 TO 5:FOR J=1 TO 5:GOTO
212 :
213 BORDER I:PAPER I:FOR I=0
214 GOTO 1,20
215 PRINT "Secret Code"
216 FOR I=0 TO 100 STEP 5
217 FOR J=0 TO 10 STEP 5
218 IF TEXT(1,1) THEN PUT I:GOTO
219 I:GOTO 1,10:GOTO I:GOTO
220 NEXT
221 NEXT
222 LOCATE 1,20:PRINT I:GOTO
223 I:GOTO 1,20:FOR I=1 TO 5:GOTO
224 I:GOTO 1,10:GOTO I:GOTO
225 NEXT
226 REM **
227 SOUND 1,20:FOR I=1 TO 5
228 PRINT "Five Dimples are hidden
229 behind a wall."PRINT "Can you
230 find out what colours they are?"
231 FOR I=1 TO 5
232 PRINT "After placing five balls
233 's using the PRINT statement says
234 your guess will be sorted."PRINT I:
235 I:WRITELINE "Delays will receive a ball."
236 FOR I=1 TO 5:PRINT
237 PRINT "A black peg means the rig
238 ht colour is in."PRINT "The right p
239 ce, and a white peg means"PRINT I:
240 "The right colour is in the wrong p
241 lace."
242 FOR I=1 TO 5:GOTO
243 I:GOTO 1,20
244 WHILE INPUT>0 AND
245 WHILE INPUT>0 AND
246 WHILE INPUT>0 AND
247 RETURN

```



Give your fingers a rest...

All the listings from this month's issue are available on cassette. See our special offer on Page 55.