

7.3 Challenge 3: The Turing Test



Location and Time: Bletchley Park, England, 1941

Story:

Logonator has broken into Bletchley Park and has sabotaged the Enigma code-breaking machine, used to break the code that transmitted secret enemy messages during World War 2.

You must repair the machine and make sure that the Allies can intercept enemy communications, only then can they win the war.

Wire up the machine, taking care to use the right colour wires. The yellow terminals must be connected with yellow wire, and similarly for the green and red wires.

Teaching points:

Use of SETPC <colour> e.g. SETPC RED to change the color of the wire drawn to red.

Use the ready-made "goto" procedures to jump to the terminals e.g. gotob will jump to the beginning of the red wire with the arrow pointing towards 0°.



Use of the protractor to determine the degrees to turn

Encourage children to layout their Logo in a readable way using line breaks and comments (to comment put a ';' before the comment so the program doesn't see it as code (see solution))

Possible Solution:

;yellow wire

gotoa

```
setpc yellow fd 6 lt 90 fd 12 lt
90 fd 24 lt 90 fd 21 lt 90 fd 11 rt
90 fd 3 lt 90
```

;red wire

gotob

```
setpc red pd fd 14 lt 90 fd 11 lt
90 fd 8 rt 90 fd 6 rt 90
```

;green wire

gotoc

```
setpc green pd rt 217 fd 10 lt
127 fd 9 lt 37 rt 90 fd 10 lt 143
fd 16
```

