

How to solve (solution) Google's Blockly Future Programmers Game: Turtle Level

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Learn how to solve all the levels of the Google's Blockly Turtle (loops).

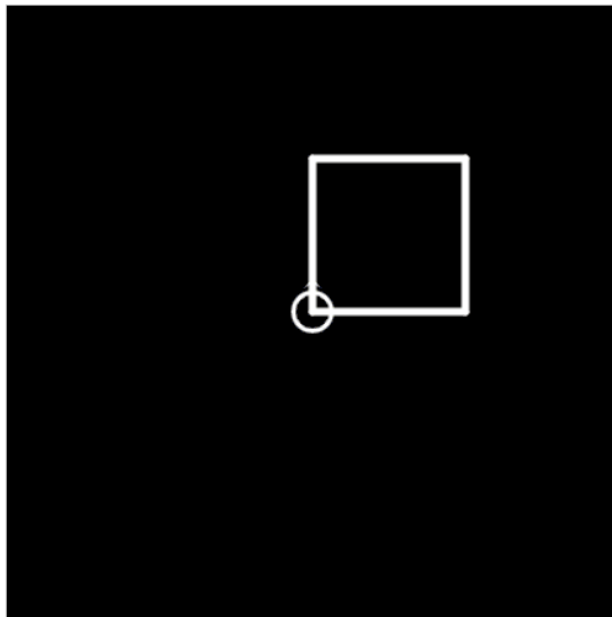
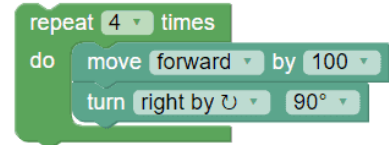


Google's Blockly Games is a series of educational games that teach programming. It is based on the Blockly library. All code is free and open source. [The Turtle Level](#) aims to dive you deep into loops. Use nested loops to paint multiple shapes and pictures. The game engine and [source is available as an open source project at Github here](#).

In this article we'll share with you the solution to all 9 levels available in the Turtle Game of Blockly.

Level #1

Create a program that draws a square.

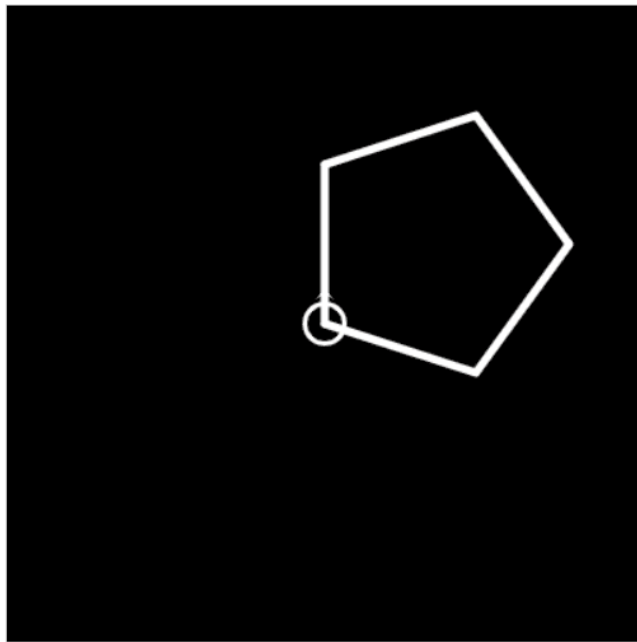
[Reset](#)Turtle
Loops

The respective JavaScript interpretation of the first level is:

```
for (var count = 0; count < 4; count++) {  
  moveForward(100);  
  turnRight(90);  
}
```

Level #2

Change your program to draw a pentagon instead of a square.

[X Reset](#)Turtle
Loops

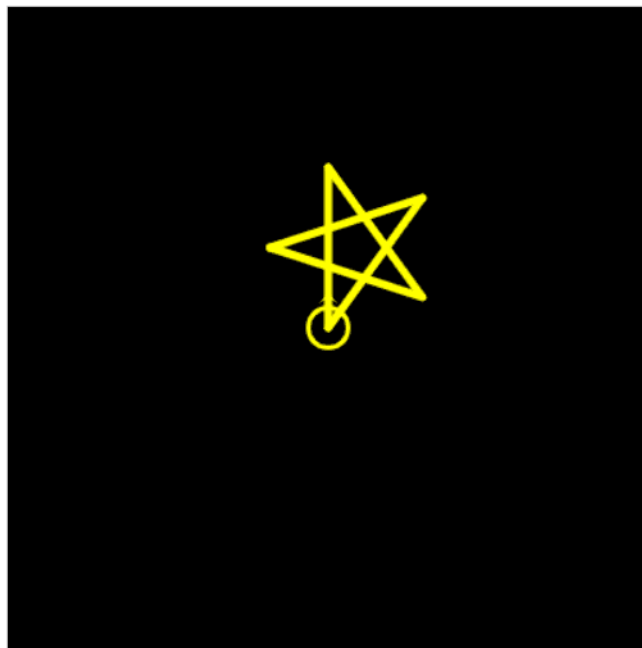
```
repeat 5 times
do
  move forward by 100
  turn right by 72°
```

The respective JavaScript interpretation of the second level is:

```
for (var count = 0; count < 5; count++) {
  moveForward(100);
  turnRight(72);
}
```

Level #3

There's a new block that allows you to change the colour, draw a yellow star.

[Reset](#)Turtle
Colour
Loops

```
set colour to yellow
repeat 5 times
do
  move forward by 100
  turn right by 144°
```

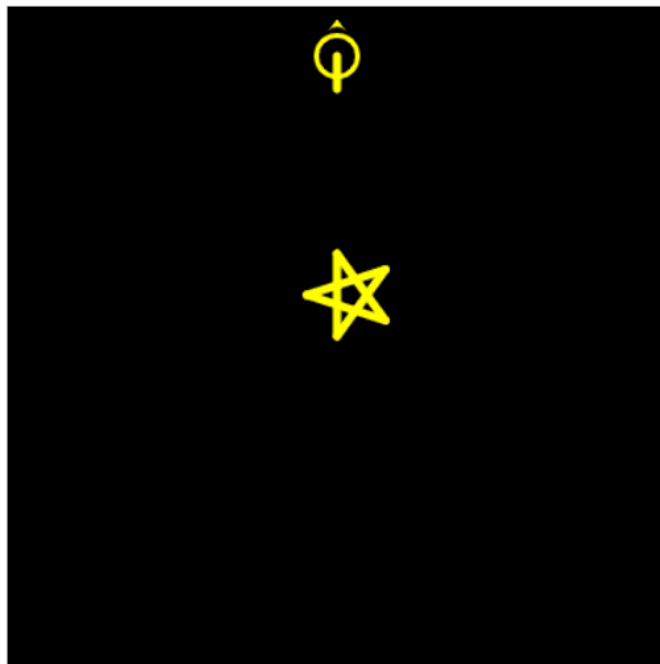
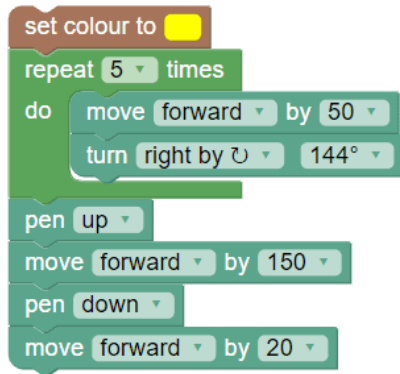
The respective JavaScript interpretation of the third level is:

```
penColour('#ffff00');

for (var count = 0; count < 5; count++) {
  moveForward(100);
  turnRight(144);
}
```

Level #4

There's a new block that allows you to lift your pen off the paper when you move. Draw a small yellow star, then draw a line above it.

[Reset](#)Turtle
Colour
Loops

The respective JavaScript code for the fourth block is:

```
penColour('#ffff00');

for (var count = 0; count < 5; count++) {
    moveForward(50);
    turnRight(144);
}

penUp();
moveForward(150);
penDown();
moveForward(20);
```

Level #5

Instead of one star, can you draw four stars arranged in a square?



Turtle Colour Loops

```

set colour to  
repeat 5 times
do
  move forward by 50
  turn right by 144°
pen up
move forward by 150
pen down
turn right by 90°
repeat 5 times
do
  move forward by 50
  turn right by 144°
pen up
move forward by 150
pen down
turn right by 90°
repeat 5 times
do
  move forward by 50
  turn right by 144°
pen up
move forward by 150
pen down
turn right by 90°
repeat 5 times
do
  move forward by 50
  turn right by 144°

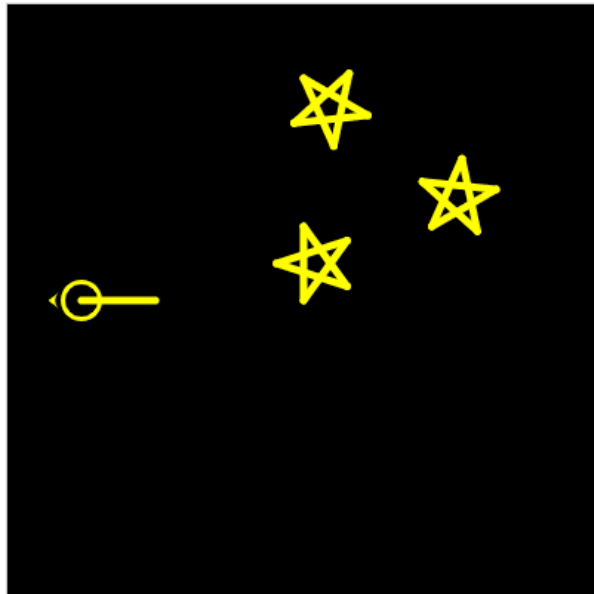
```

The respective JavaScript code for the fifth block is:

```
penColour('#ffff00');
for (var count = 0; count < 5; count++) {
    moveForward(50);
    turnRight(144);
}
penUp();
moveForward(150);
penDown();
turnRight(90);
for (var count2 = 0; count2 < 5; count2++) {
    moveForward(50);
    turnRight(144);
}
penUp();
moveForward(150);
penDown();
turnRight(90);
for (var count3 = 0; count3 < 5; count3++) {
    moveForward(50);
    turnRight(144);
}
penUp();
moveForward(150);
penDown();
turnRight(90);
for (var count4 = 0; count4 < 5; count4++) {
    moveForward(50);
    turnRight(144);
}
```

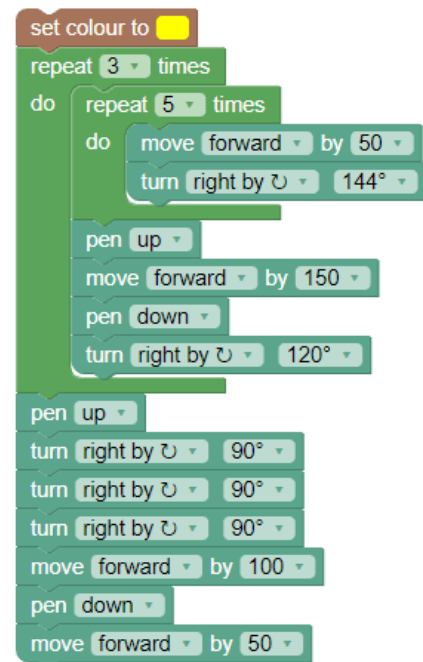
Level #6

Draw the stars, then draw the line.



Reset

Turtle
Colour
Loops



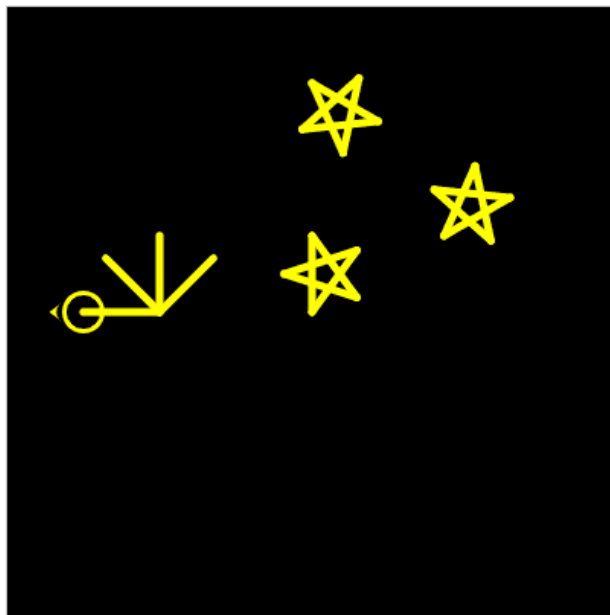
The respective JavaScript code for the sixth block is:

```

penColour('#ffff00');
for (var count2 = 0; count2 < 3; count2++) {
  for (var count = 0; count < 5; count++) {
    moveForward(50);
    turnRight(144);
  }
  penUp();
  moveForward(150);
  penDown();
  turnRight(120);
}
penUp();
turnRight(90);
turnRight(90);
turnRight(90);
moveForward(100);
penDown();
moveForward(50);
  
```

Level #7

Draw the stars, then draw four white lines.

[X Reset](#)Turtle
Colour
Loops

```
set colour to yellow
repeat 3 times
do
  repeat 5 times
  do
    move forward by 50
    turn right by 144°
  pen up
  move forward by 150
  pen down
  turn right by 120°
pen up
repeat 3 times
do
  turn right by 90°
move forward by 100
pen down
repeat 3 times
do
  turn right by 45°
move forward by 50
repeat 3 times
do
  pen up
  turn right by 90°
  turn right by 90°
  move forward by 50
  pen down
  repeat 3 times
  do
    turn right by 45°
  move forward by 50
```

The respective JavaScript code for the seventh block is:

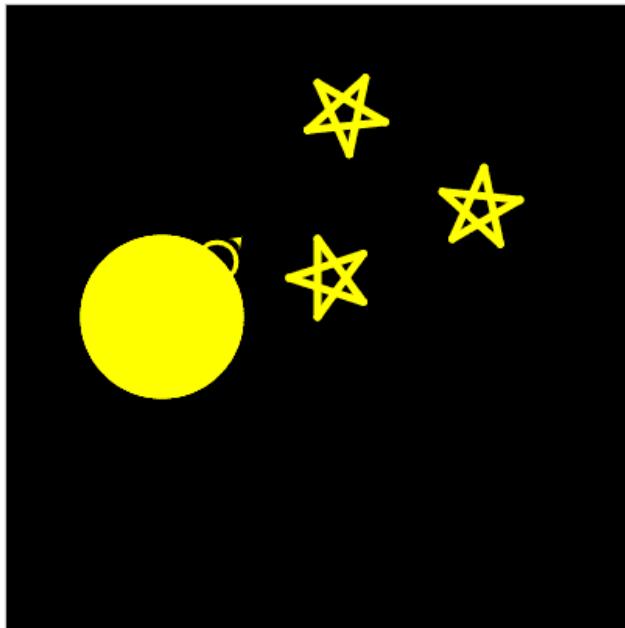
```

penColour('#ffff00');
for (var count2 = 0; count2 < 3; count2++) {
  for (var count = 0; count < 5; count++) {
    moveForward(50);
    turnRight(144);
  }
  penUp();
  moveForward(150);
  penDown();
  turnRight(120);
}
penUp();
for (var count3 = 0; count3 < 3; count3++) {
  turnRight(90);
}
moveForward(100);
penDown();
for (var count4 = 0; count4 < 3; count4++) {
  turnRight(45);
}
moveForward(50);
for (var count6 = 0; count6 < 3; count6++) {
  penUp();
  turnRight(90);
  turnRight(90);
  moveForward(50);
  penDown();
  for (var count5 = 0; count5 < 3; count5++) {
    turnRight(45);
  }
  moveForward(50);
}

```

Level #8

Drawing 360 white lines will look like the full moon.

[X Reset](#)Turtle
Colour
Loops

```
set colour to yellow
repeat 3 times
do
  repeat 5 times
  do
    move forward by 50
    turn right by 144
  pen up
  move forward by 150
  pen down
  turn right by 120
pen up
repeat 3 times
do
  turn right by 90
move forward by 100
pen down
repeat 3 times
do
  turn right by 45
move forward by 50
repeat 360 times
do
  pen up
  turn right by 90
  turn right by 90
  move forward by 50
  pen down
  repeat 3 times
  do
    turn right by 1
  move forward by 50
```

The respective JavaScript code for the eighth block is:

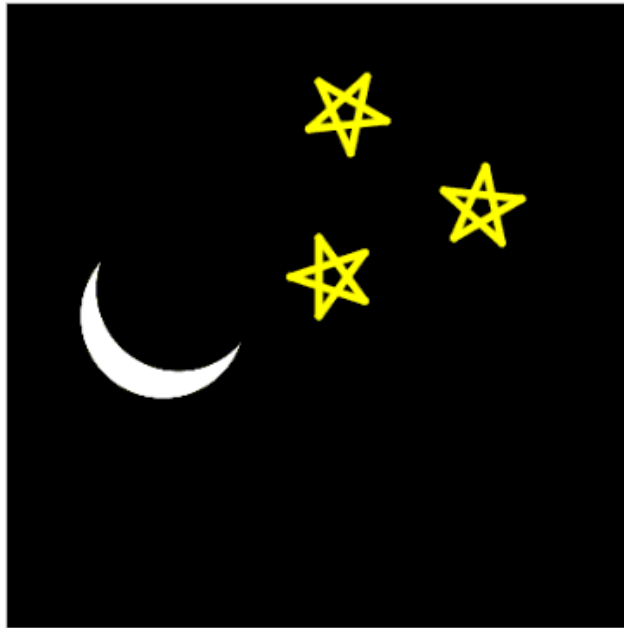
```

penColour('#ffff00');
for (var count2 = 0; count2 < 3; count2++) {
  for (var count = 0; count < 5; count++) {
    moveForward(50);
    turnRight(144);
  }
  penUp();
  moveForward(150);
  penDown();
  turnRight(120);
}
penUp();
for (var count3 = 0; count3 < 3; count3++) {
  turnRight(90);
}
moveForward(100);
penDown();
for (var count4 = 0; count4 < 3; count4++) {
  turnRight(45);
}
moveForward(50);
for (var count6 = 0; count6 < 360; count6++) {
  penUp();
  turnRight(90);
  turnRight(90);
  moveForward(50);
  penDown();
  for (var count5 = 0; count5 < 3; count5++) {
    turnRight(1);
  }
  moveForward(50);
}

```

Level #9

Can you add a black circle so that the moon becomes a crescent?



✖ Reset

Turtle
Colour
Loops

```

set colour to yellow
repeat 3 times
do
  repeat 5 times
  do
    move forward by 50
    turn right by 144
  pen up
  move forward by 150
  turn right by 120
  pen down
pen up
turn left by 90
move forward by 100
pen down
set colour to white
repeat 360 times
do
  move forward by 50
  turn right by 90
  turn right by 90
  move forward by 50
  turn left by 90
  turn left by 90
  turn right by 1
turn right by 120
move forward by 20
set colour to black
repeat 360 times
do
  move forward by 50
  turn right by 90
  turn right by 90
  move forward by 50
  turn left by 90
  turn left by 90
  turn right by 1

```

The respective JavaScript code for the ninth block is:

```

penColour('#ffff00');
for (var count2 = 0; count2 < 3; count2++) {
    for (var count = 0; count < 5; count++) {
        moveForward(50);
        turnRight(144);
    }
    penUp();
    moveForward(150);
    turnRight(120);
    penDown();
}
penUp();
turnLeft(90);
moveForward(100);
penDown();
penColour('#ffffff');
for (var count3 = 0; count3 < 360; count3++) {
    moveForward(50);
    turnRight(90);
    turnRight(90);
    moveForward(50);
    turnLeft(90);
    turnLeft(90);
    turnRight(1);
}
turnRight(120);
moveForward(20);
penColour('#000000');
for (var count4 = 0; count4 < 360; count4++) {
    moveForward(50);
    turnRight(90);
    turnRight(90);
    moveForward(50);
    turnLeft(90);
    turnLeft(90);
    turnRight(1);
}

```

Happy coding !