

## KEYWORDS

- Algorithm
- Program
- Pseudocode
- Instructions
- Iteration

### Lesson 1

#### Algorithms & Pseudocode

An algorithm is a step by step way of solving a problem

Pseudocode means fake code- close to English language and easy to read and understand. Write step by step instructions to draw a square:

```
Forward (100)
Right(90)
Forward (100)
Right(90)
Forward (100)
Right(90)
Forward (100)
```

```
import turtle

myPen=turtle.Turtle()
myScreen=turtle.Screen()

myPen.forward(100)
```

### Year 9 - Topic 3 - I am a Computer Programmer

In this project you are going to learn how to use Python to solve tasks using the computer. You will use a range of python programming skills and instructions to make different shape designs.

### Lesson 2 – Introduction to Python Turtle

Create some simple shapes using python turtle. You must include the 3 lines:

```
Import turtle
Name=turtle.Turtle()
wn=turtle.Screen()
```

Moves the pen forward

This is the turn angle

To calculate the turn angle divide 360 by the number of sides you want you shape to have

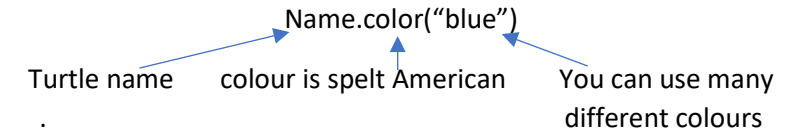
Then give instructions to draw a shape:

```
Name.forward(100)
Name.right(120)
Name.forward(100)
Name.right(120)
Name.forward(100)
Name.right(120)
```

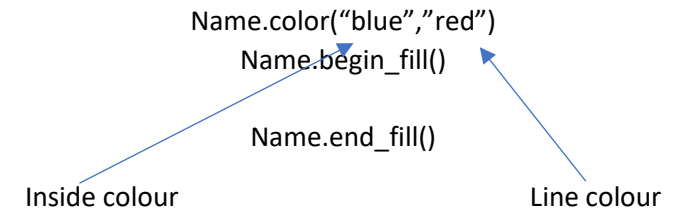


### Lesson 3 – Using Colour

To change the colour of you pen you need to use the following:



To fill your shape with colour you need to use the following:



#### Tips & Tricks:

Name.penup() – stops drawing Name.pensize(10) – make line bigger  
Name.pendown() – carries on drawing Name.shpae ("turtle")

### Lesson 4 – Using Loops / Iteration

A loop is a way of telling the computer to do something multiple times without having to write it out each time

```
import turtle
for i in range(4):
    turtle.forward(100)
    turtle.right(90)
```

Draws a Square

### Questions

What is the turn angle for a pentagon?

What is the line of code to fill a shape pink with blue outline?