TURTLE

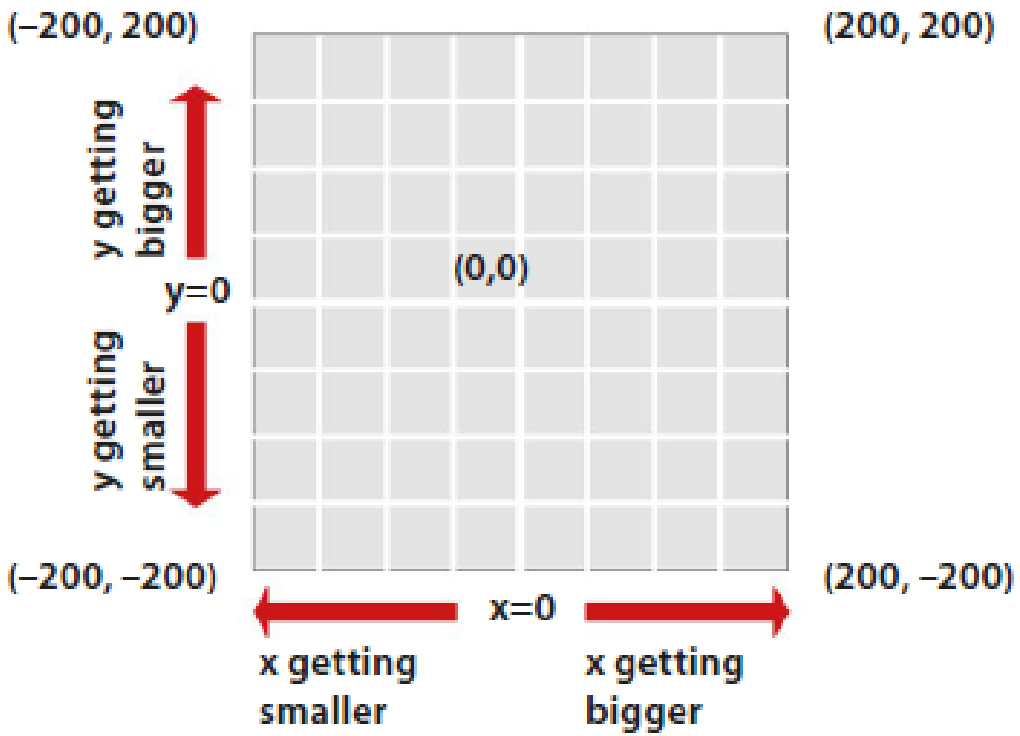
Creating Graphics

Creating graphics in Python is easy. Python's **turtle** module lets you move a robot "turtle" around the screen, drawing pictures with a pen as it goes.

In this project, you'll program the turtle to build more robots—or at least pictures of robots!

Turtle coordinates

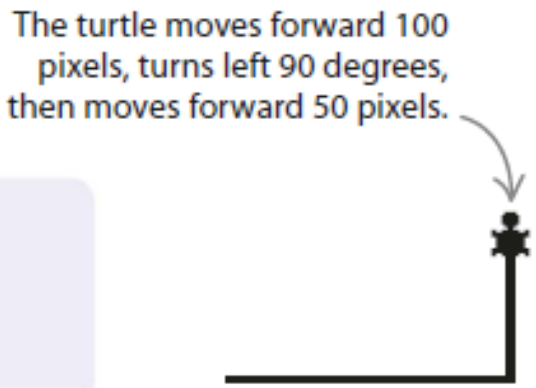
Python will adjust the Turtle window to fit your screen, but let's use an example that's 400 pixels by 400 pixels. Python uses coordinates to identify all the places in the window where the turtle could be. This means that every place on the window can be found by using two numbers. The first number, the x coordinate, shows how far to the left or right of the center the turtle is. The second number, the y coordinate, shows how far up or down from the center it is. Coordinates are written in parentheses, with the x coordinate first, like this: (x, y).



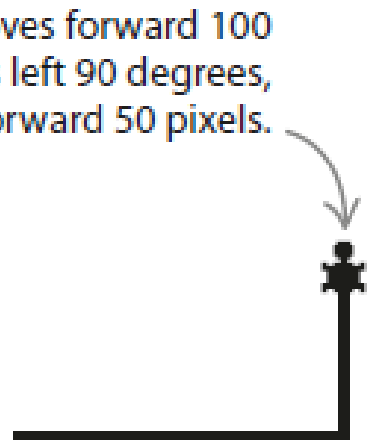
The basics of Turtle

▽ Drawing with the turtle

The `turtle` module allows you to control a pen-carrying robot turtle. By giving the turtle instructions on how it should move around the screen, you can draw different pictures and designs. You can also tell the turtle when to put the pen down and start drawing, or when to pull it up so it can move to a different part of the screen without leaving an untidy trail.




```
t.forward(100)
t.left(90)
t.forward(50)
```



Lawn Green	Seashell	Blue
Purple	Light Blue	Yellow
Goldenrod	Hot Pink	Thistle

EXPERT TIPS

Turtle speed

You can control how fast the turtle draws by using the `t.speed()` command to set its speed to one of these values: "slowest", "slow", "normal", "fast", and "fastest".

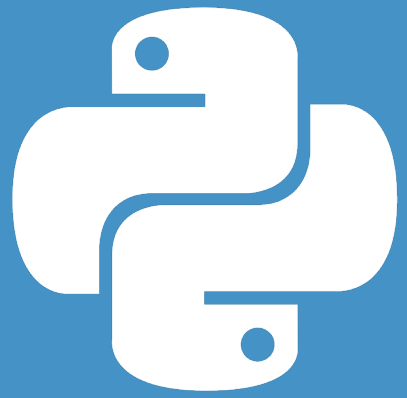
Pull the turtle's pen up.

Set the turtle's speed to slow.

```
t.penup()
t.speed('slow')
t.bgcolor('Dodger blue')
```

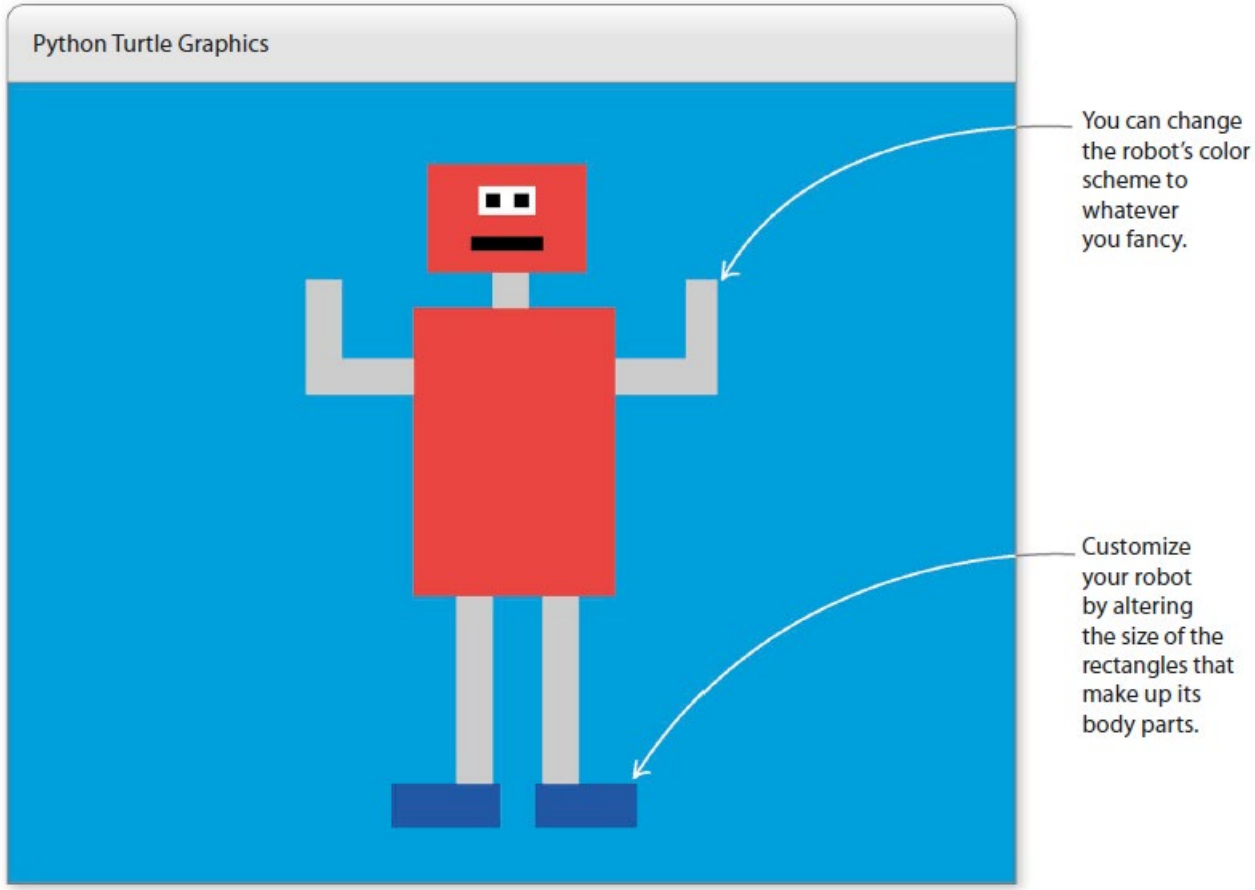
Make the background of the window "Dodger blue".

Time to code

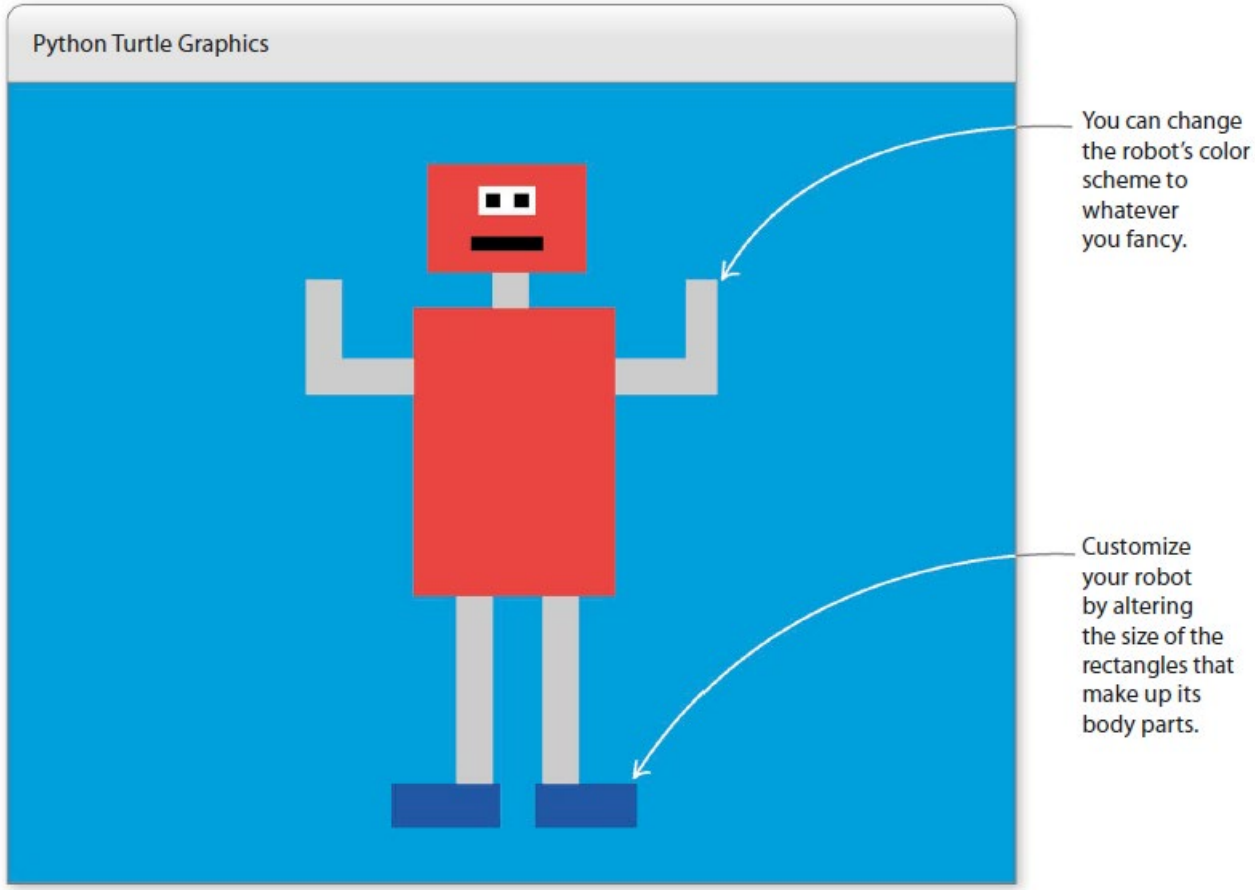



YOUR MISSION
should you
choose to
accept it.

THE ROBOT


Python Turtle Graphics
You can change the robot's color scheme to whatever you fancy.
Customize your robot by altering the size of the rectangles that make up its body parts.

THE ROBOT


Python Turtle Graphics
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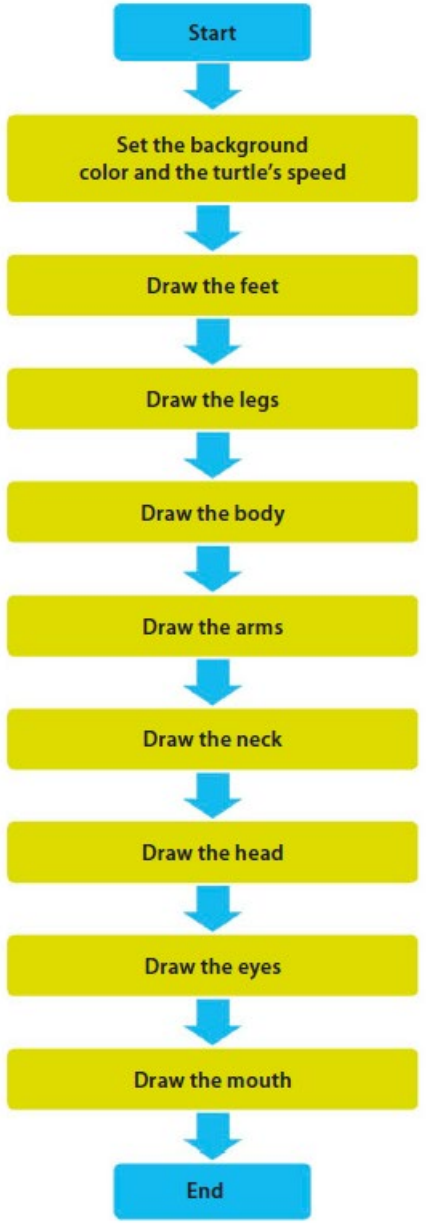
Start
Set the background color and the turtle's speed
Draw the feet
Draw the legs
Draw the body
Draw the arms
Draw the neck
Draw the head
Draw the eyes
Draw the mouth
End