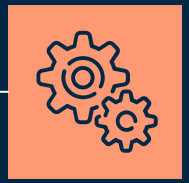
Pi-Top Workshop #1

Introduction to Programming
Pi-Tops in block code

https://further.pi-top.com/

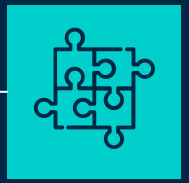
Workshop #1 Agenda



01

BLOCK CODE

Learn to code Pi-Tops with block code.



02

MAZE CHALLENGE

Program the Pi-Tops to maneuver through a maze.

Connecting to the Pi-Top

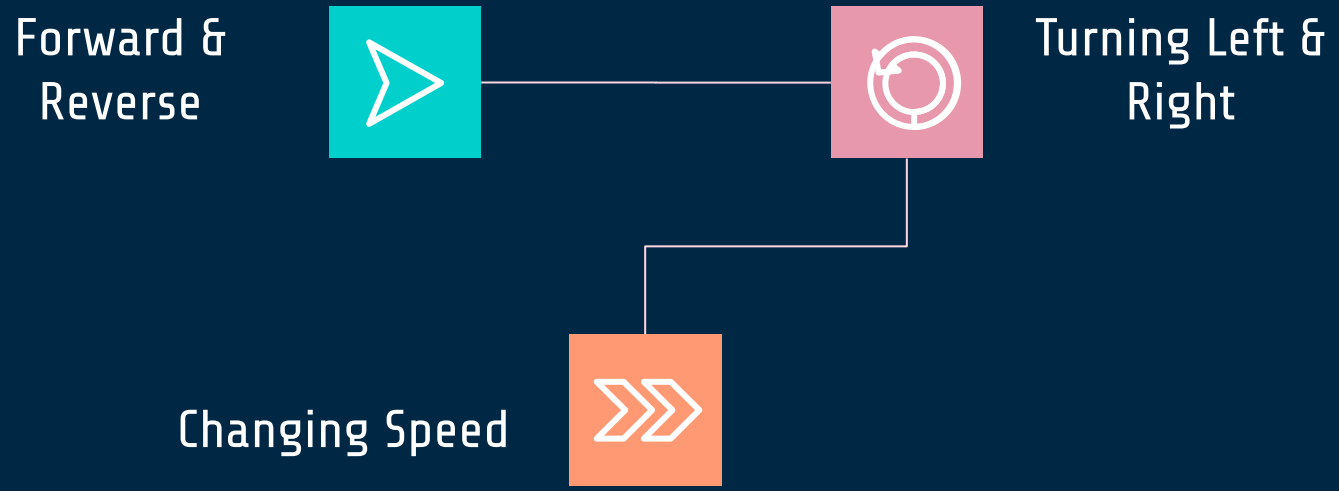
Connect to Further

Create a link between the rover and Further.

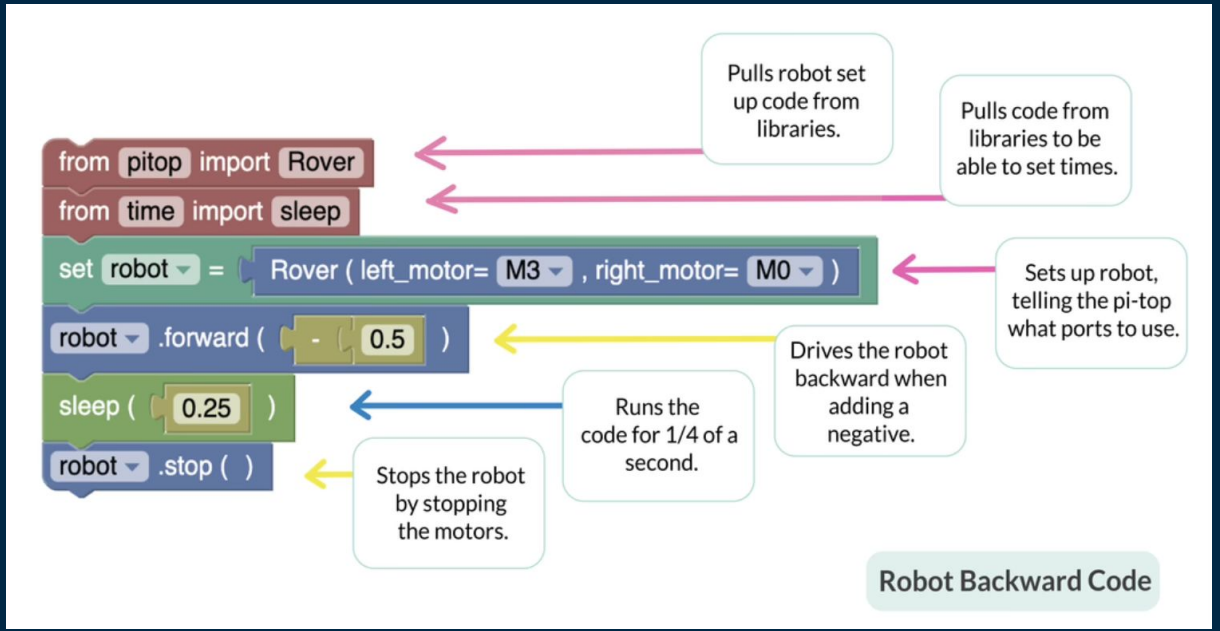
- **Find your pi-top's IP address.** Press the down arrow on top of the pi-top until you see a number on the mini screen.
- Look at the bottom right area of this Further lesson, **find the pi-top symbol. Click on it.**
- **Enter the IP address** in the box. The periods must be entered too.
- **Click connect.** The words should change from connect to disconnect.

Mark section as complete

BASIC MANEUVERS

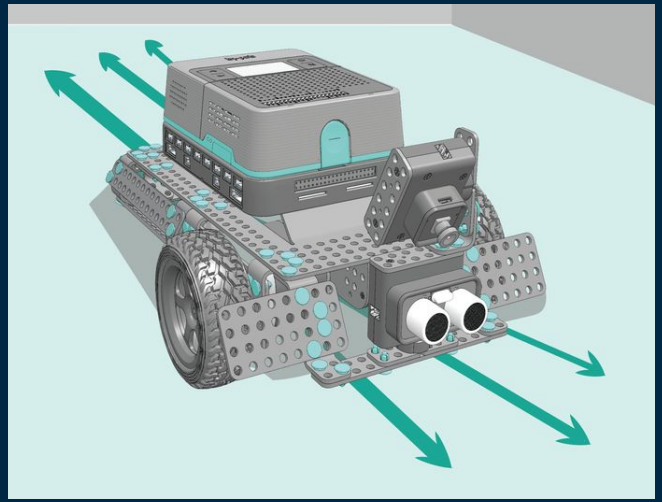


REVERSE

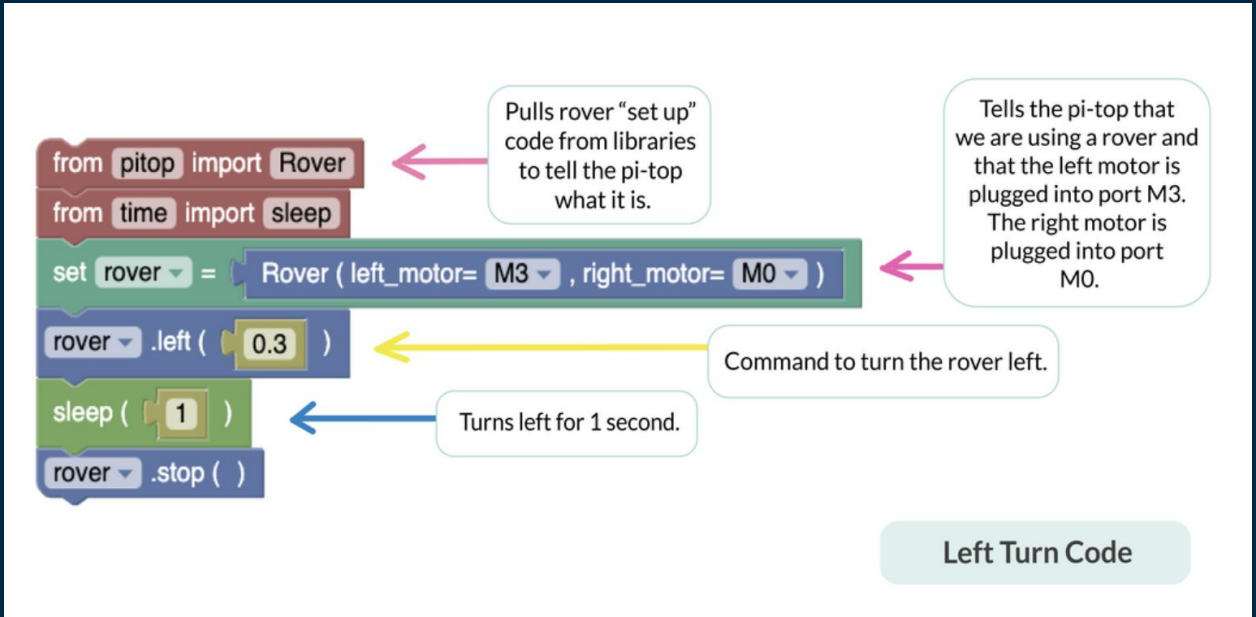

from pitop import Rover
from time import sleep
set robot = Rover (left_motor= M3 , right_motor= M0)
robot .forward (- 0.5)
sleep (0.25)
robot .stop ( )
Pulls robot set up code from libraries.
Pulls code from libraries to be able to set times.
Sets up robot, telling the pi-top what ports to use.
Drives the robot backward when adding a negative.
Runs the code for 1/4 of a second.
Stops the robot by stopping the motors.
Robot Backward Code

DISTANCE TEST

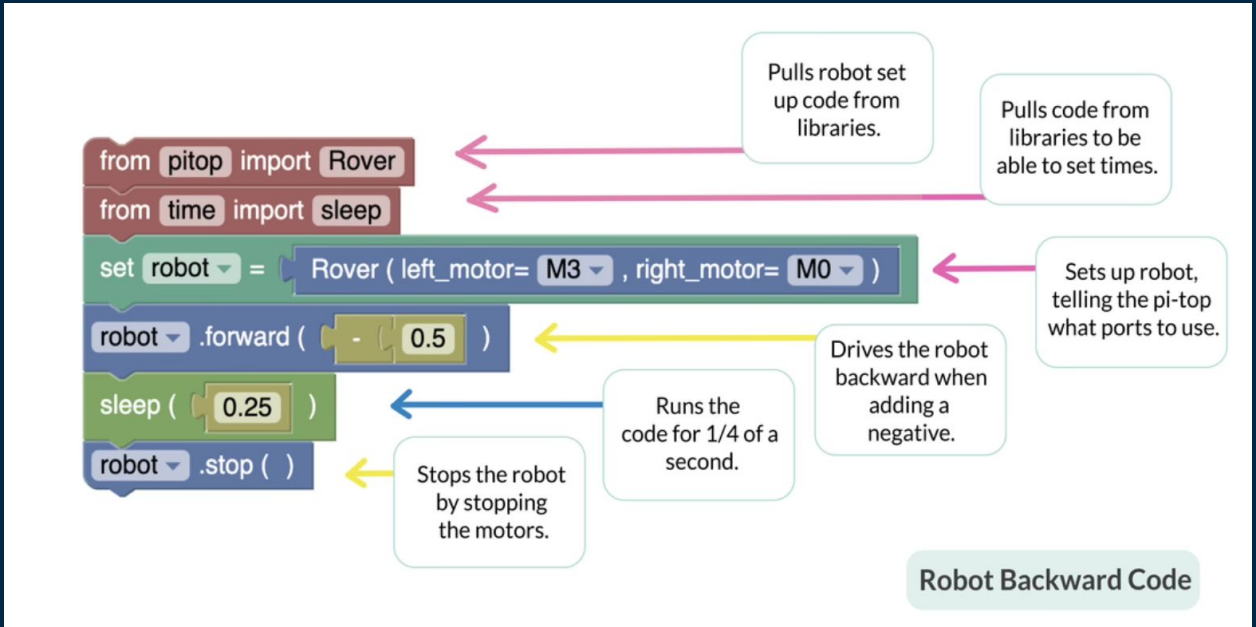
1. Set the variable for sleep to (1)
2. Run the code and measure the distance that the robot moves
3. Repeat the process, measuring the distances when setting the sleep variable to (0.5) and (2)
4. Record the distances for each variable



TURNING RIGHT

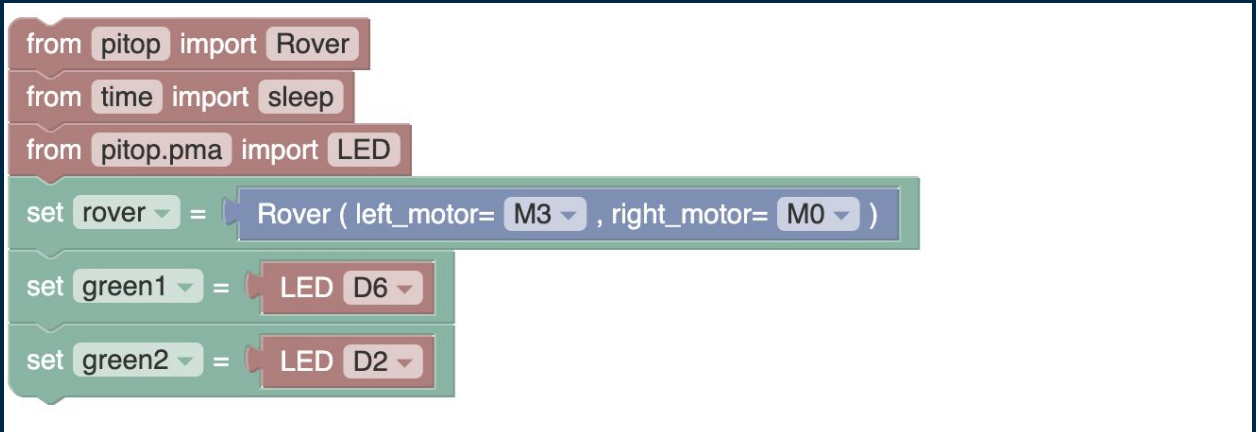


TURNING LEFT

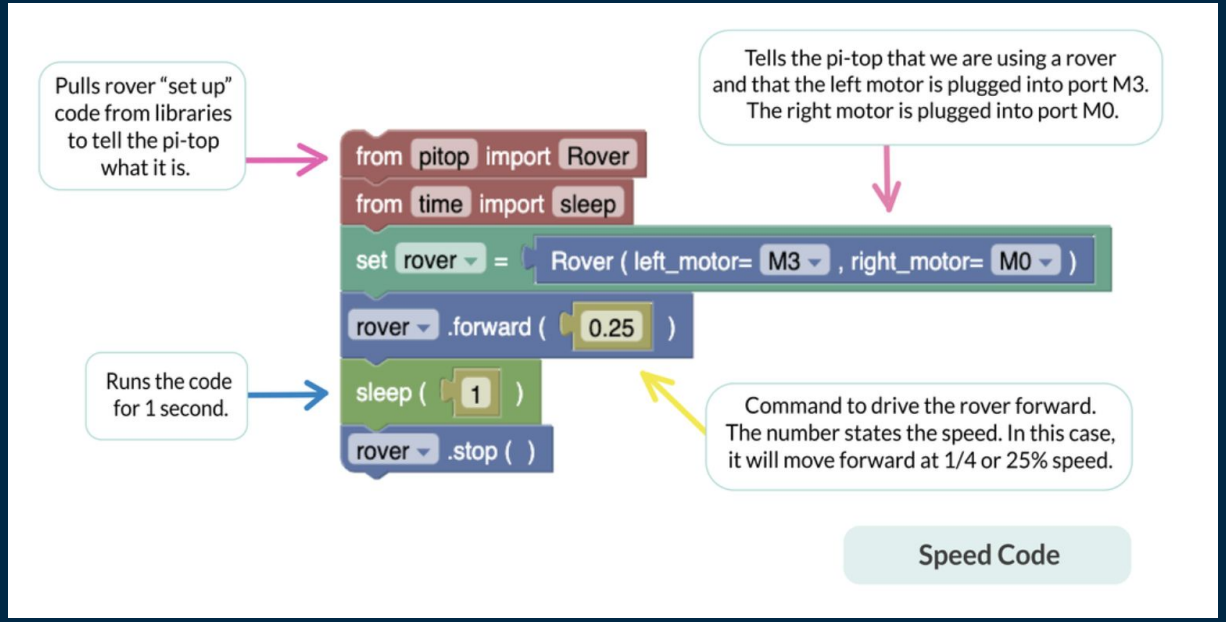


CODING THE BLINKERS

The blinkers will blink in the direction that the robot is turning.



CHANGING SPEED



- Speed is changed by changing the value for "rover forward (...)"

MAZE CHALLENGE

MAZE CHALLENGE

OBJECTIVE: Program the robot to maneuver through a maze. Apply knowledge of basic maneuvers and modifying variables.