Outputs

Lesson 4

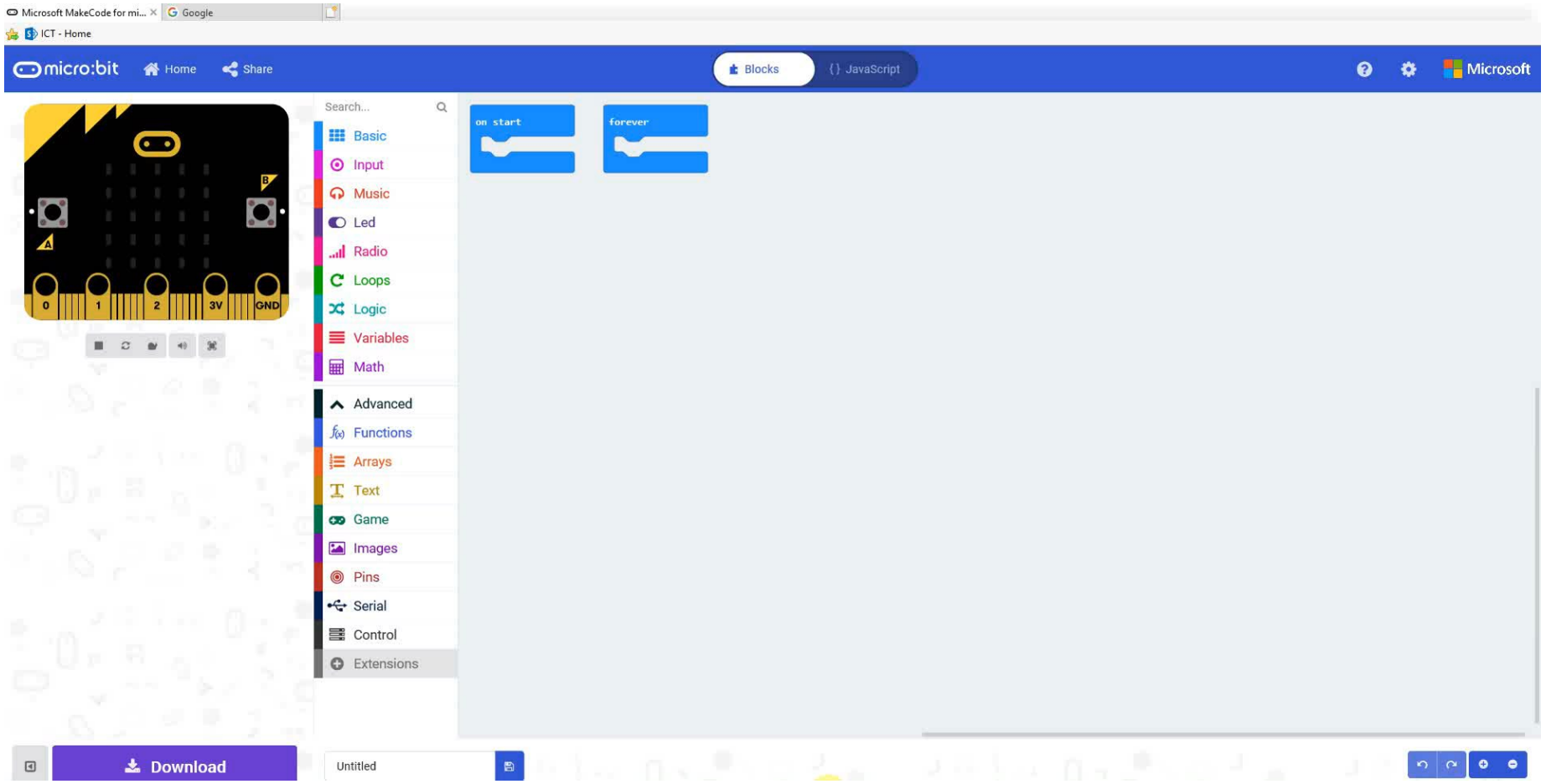
arm School Program

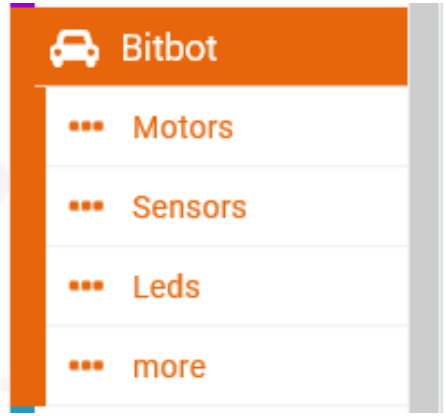
Objectives

- Use code to produce an **output**
- Be able to flash the **LEDs** and change colour
- Identify **motor** changes for specific angles
- Use code to enable and disable the **buzzer**

Using the Motors

- Ensure you have the Bit:Bot Extensions added to the project

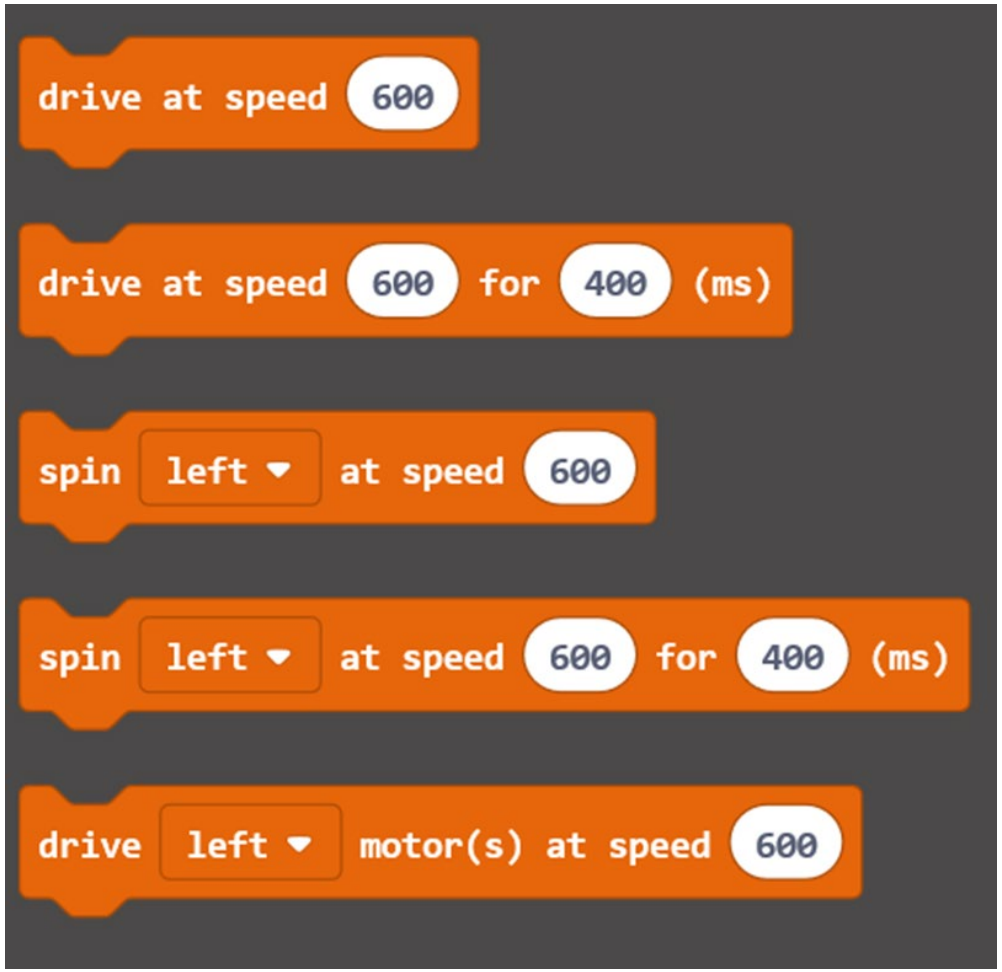




arm School Program

Using the Motors

- Drive Motors
- Drive Motor for given time
- Spin Wheels
- Spin Wheels for given time
- Drive left or right motor

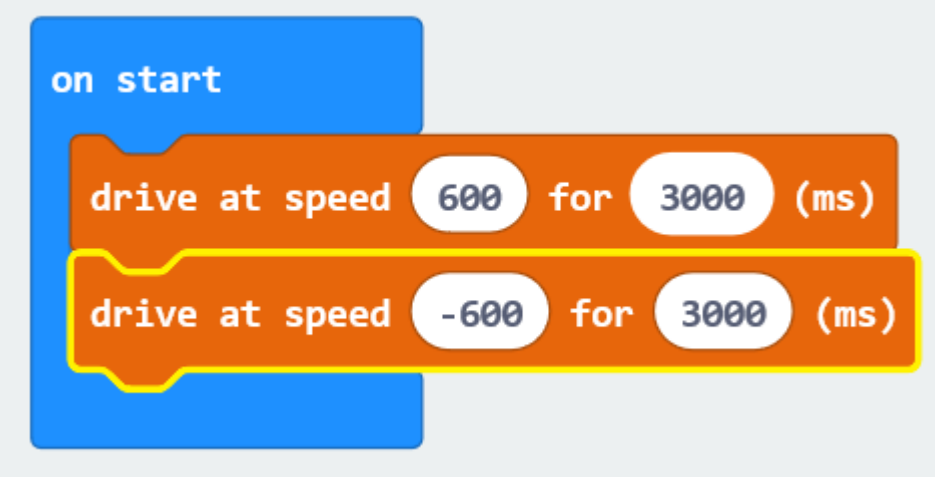


- Positive Numbers = forward, Negative Numbers = Reverse
- Spin drives the chosen wheel forward but the opposite in reverse

Using the Motors

Getting Started

- Try the example right – predict what will happen
- Try to drive the robot in a square and return to the starting point



Pro-tip

- Spin drives one motor forward and one in reverse

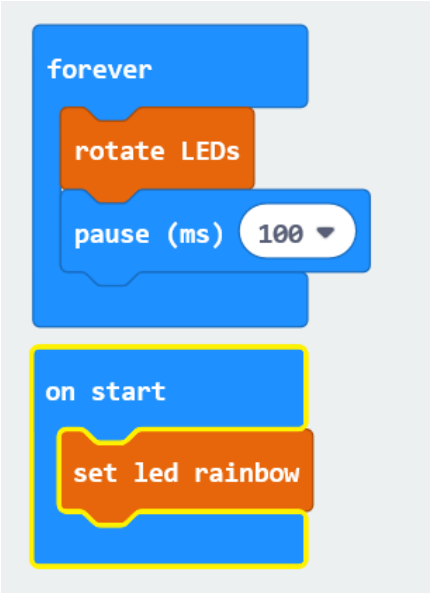
Stretch Tasks

- Try to drive the robot in a triangle or other polygon pattern

Using the LEDs

- Normally changing LEDs is a two-stage process
  - Make the change
  - Show the change
- The Bit:Bot is set to automatically update so any changes are applied without the need to update

Using the LEDs



Getting Started

- Try the example on the left

Pro-tip

- **Shift** moves one step, **rotate** keeps going around

Stretch Task

- Start on the first LED and move it round one place to the end of the row

Final Thoughts

- How fast can the lights change? What is the lowest practical delay to use?

Using the Buzzer

- The **buzzer** can be enabled and disabled in the ***buzzer*** block
- Use the ***pause block*** to keep it ‘on’ or ‘off’ for a given time

Thank You
Danke
Merci
谢谢
ありがとう
Gracias
Kiitos
감사합니다
धन्यवाद
תודה

arm School Program

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