CONTROL FLOW: IF STATEMENTS

When programming the Engduino, it is useful to be able to change what the code is doing depending on the value of a variable, or on whether some event has happened. We saw this in the code for the button.

```
void loop() {

      if (EngduinoButton.wasPressed())
            EngduinoLEDs.setAll(BLUE);
      else
            EngduinoLEDs.setAll(OFF);

      delay(1000);

}
```

Strictly, the **if** statement takes a Boolean value as its argument. A Boolean value is one that can only be either **false** or **true**. If it is **true**, then the statement following the **if** is executed, if the value is **false**, then the statement following the **else** is executed.

What if we don't want an **else** part – we only want to do something extra if the condition is true. Well, we can just omit it:

```
void loop() {

      if (EngduinoButton.wasPressed())
            EngduinoLEDs.setAll(BLUE);

      delay(1000);
      EngduinoLEDs.setAll(OFF);

}
```

This code achieves the same thing as the previous code: if the button has been pressed, it switches the LEDs on for a second.

What if we want to execute more than a single statement if some condition is true. Well, we can do that too, by grouping statements inside curly braces. This isn't like Python – indentation is nice for keeping your code neat, but it isn't used to group statements together. For that you need braces.

```
void loop() {

      if (EngduinoButton.wasPressed()) {
            EngduinoLEDs.setAll(BLUE);
            Serial.println("Button Pressed");
      }

      delay(1000);
      EngduinoLEDs.setAll(OFF);

}
```