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);
}
```