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.

```cpp
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:

```cpp
void loop() {
    if (EngduinoButton.wasPressed())
        EngduinoLEDs.setAll(BLUE);
        Serial.println("Button Pressed");
    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.

```cpp
void loop() {
    if (EngduinoButton.wasPressed()) {
        EngduinoLEDs.setAll(BLUE);
        Serial.println("Button Pressed");
    }
    delay(1000);
    EngduinoLEDs.setAll(OFF);
}
```