Lesson 6 – Loops and conditional statements

Most Engduino sketches will contain loops and conditional statements to carry out user-specified tasks.

In BlockCode, you can use:

- For loops
- While loops
- If conditionals

FOR LOOPS

The 'for loop' allows a section of code to repeat several times.

To use:

1. **Choose an equality/inequality sign (<,>,=) by entering on keyboard**
2. **Enter value for variable 'i' into textbox (light green colour)**
   a. *The value for 'i' will be constantly evaluated in the loop*
3. **Drag button onto canvas**
4. **Any buttons that need to execute in the loop, must be dragged on top of this button**

WHILE LOOPS

The code will only run if the condition is satisfied. The 'while loop' allows a section of code to repeat while the condition is being satisfied.

To use:

1. **Choose an equality/inequality sign (<,>,=) by entering on keyboard**
2. **Enter value for variable 'i' into textbox (light green colour)**
   a. *The value for 'i' will be constantly evaluated in the loop*
3. **Drag button onto canvas**
4. **Any buttons that need to execute in the loop, must be dragged on top of this button**

<u>**IF CONDITIONAL**</u>

The if conditional allows code to only run (once) if the condition is satisfied.

To use:

1. **Choose an equality/inequality sign (<,>,=) by entering on keyboard**
2. **Enter value for variable 'i' into textbox (light green colour)**
   a. *The value for 'i' will be evaluated*
3. **Drag button onto canvas**
4. **Any buttons that need to execute if the condition is satisfied, must be dragged on top of this button**

NOW TRY WRITING A SKETCH THAT COMBINE THESE LOOPS/CONDITIONALS WITH SENSORS AND COMPONENTS

<u>**Summary**</u>

Lesson 6 teaches you about the different loops and conditional statements you can use in BlockCode. We will also show you how to implement them in different scenarios and why they are useful.