

Lesson 3: Sensing inputs

Computing

Sensing

Ben Hall



Task 1 - Changing a variable with buttons

Task

Using selection (if... then...), make the micro:bit into a counter. It should be able to count up and down depending on the button pressed and display the value.

Variables

Name: Count

Button A adds one

Button B subtracts one

What will be displayed?

Circle which you will use.

Text Numbers Images

Describe them below

Display count number whenever it changes

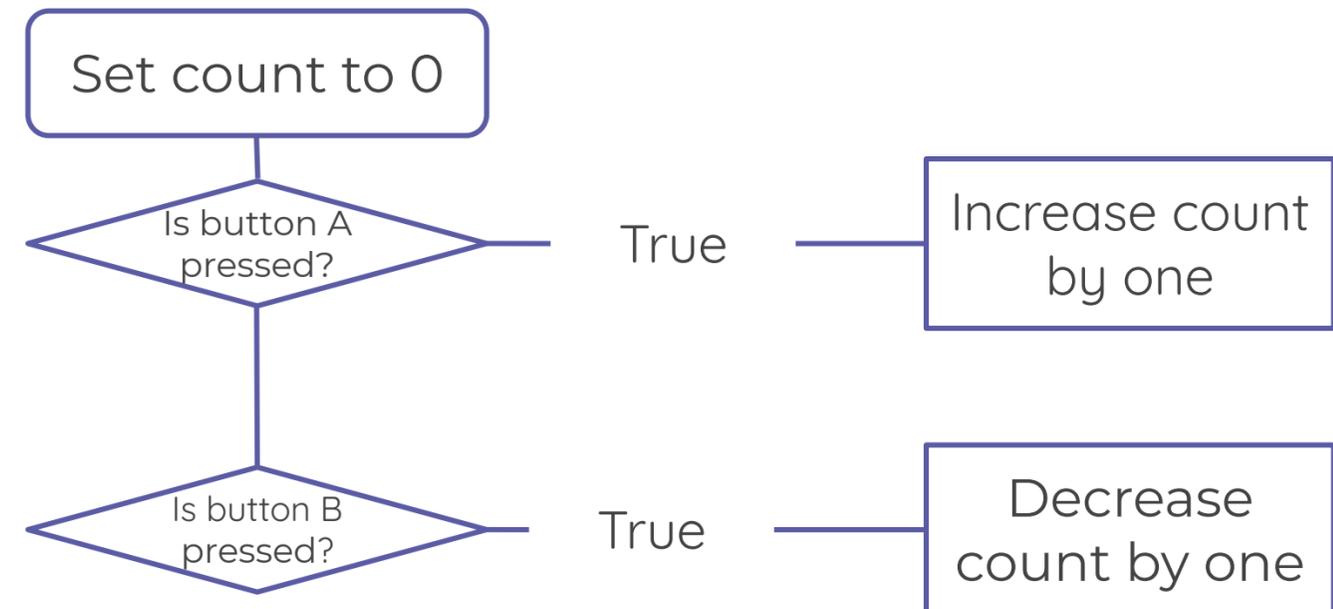


Task 1 - Task name

Algorithm

1. Set the count to 0
2. Check if button A has been pressed, if it has:
 - add one to the counter and then show the number stored in count
3. Check if button B has been pressed, if it has:
 - subtract one from the counter and then show the number stored in count

Program flow



Task 2 - Using an if...then...else if... statement

Task

Using selection (if... then...), make the micro:bit into a counter. It should be able to count up and down depending on the button pressed, display the value and say when a room is full or empty.

Variables

Name: Count

Button A adds one

Button B subtracts one

What will be displayed?

Circle which you will use.

Text Numbers Images

Describe them below

Display count number whenever it changes

Display 'full' when room is full

Display 'empty' when room is empty



Task 2 - Using an if..then..else if.. statement

Algorithm

1. Set the count to 0
2. Check if button A has been pressed, if it has:
add one to the counter and then show the number stored in count
Check if count is more than 29, if it is:
Show the word 'Full'
3. Check if button B has been pressed, if it has:
subtract one from the counter and then show the number stored in count
Check if count is less than 1, if it is:
Show the word 'Empty'

Program flow

