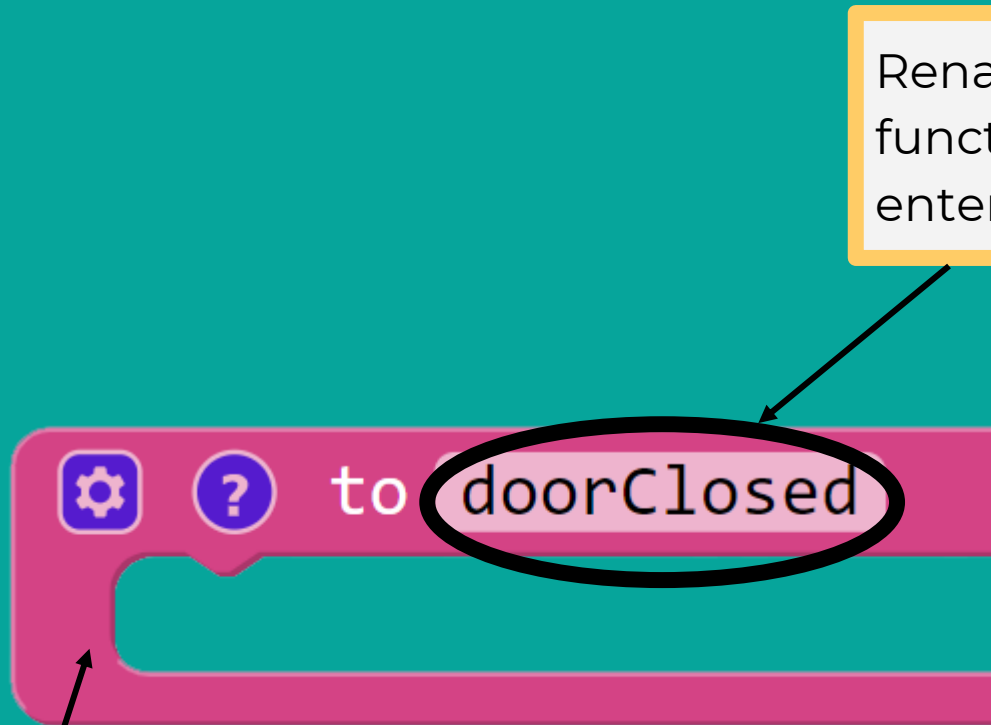


Code a program that represents the door closed on M.A.S



Rename the function by entering text.



From  
'Functions'

⚙️

?

to doorClosed

on micro:bit plot X: 2 Y: 0

on micro:bit plot X: 2 Y: 1

on micro:bit plot X: 2 Y: 2

on micro:bit plot X: 2 Y: 3

on micro:bit plot X: 2 Y: 4

From 'micro:bit' 'Actions'



This creates another program on the workspace.

when micro:bit A ▼ is pressed ▼

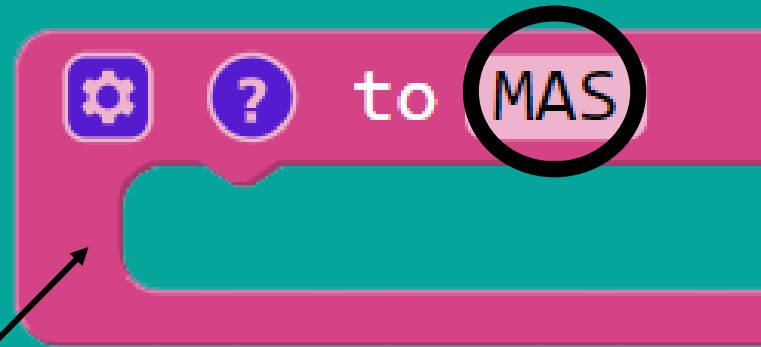
doorClosed

From  
'micro:bit'  
'Events'

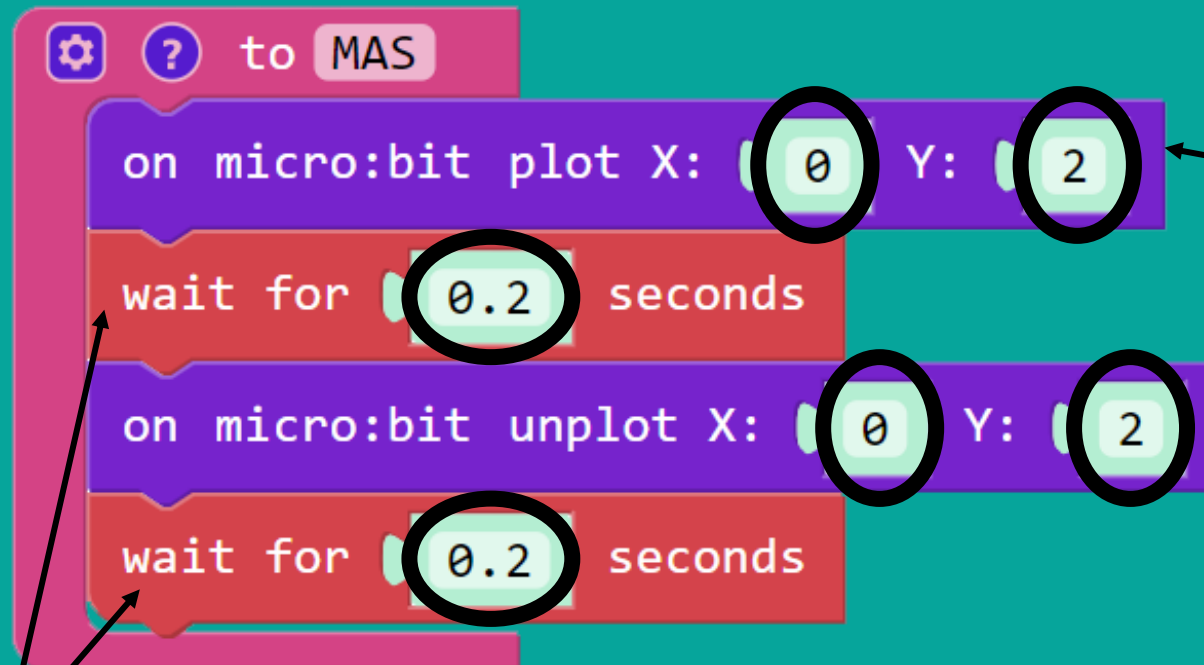
From  
'Functions'

Once a function is created, new blocks named the same are added to the 'Functions' tab.





From  
'Functions'

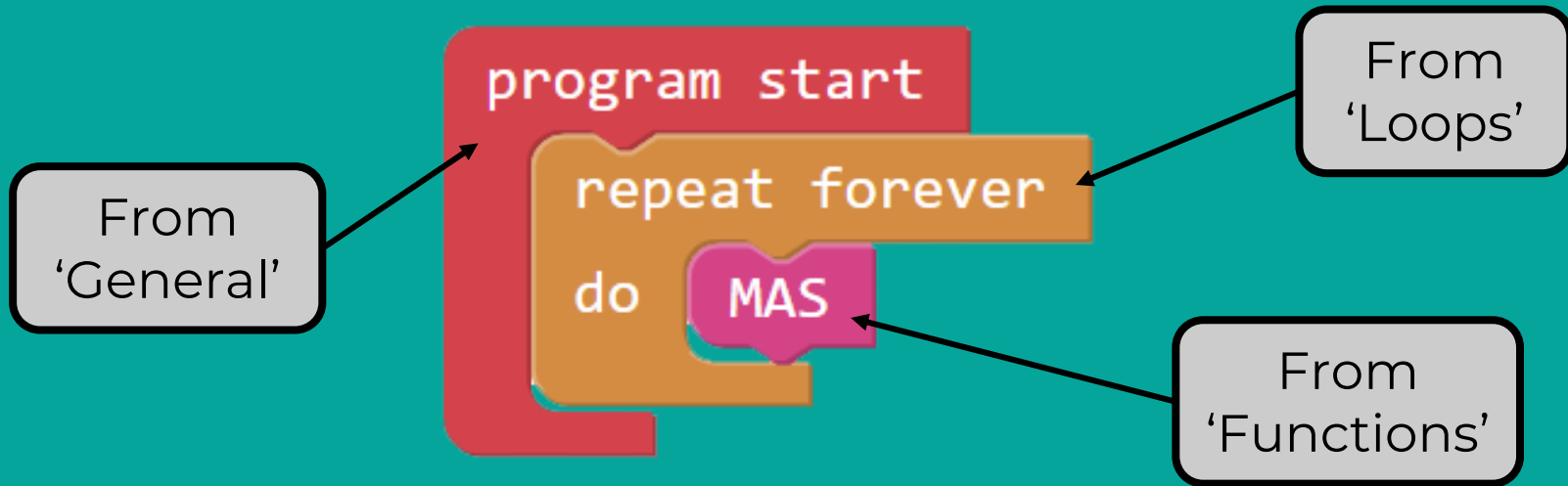


From  
'micro:bit'  
'Actions'

From  
'General'

This function will  
create a flashing LED  
to indicate the  
presence of M.A.S.!





This program activates the 'MAS' function within the forever loop which means this program will keep going until it is stopped.



```

to doorClosed
  on micro:bit plot X: 2 Y: 0
  on micro:bit plot X: 2 Y: 1
  on micro:bit plot X: 2 Y: 2
  on micro:bit plot X: 2 Y: 3
  on micro:bit plot X: 2 Y: 4

```

```

when micro:bit A is pressed
  doorClosed

```

```

to MAS
  on micro:bit plot X: 0 Y: 2
  wait for 0.5 seconds
  on micro:bit unplot X: 0 Y: 2
  wait for 0.5 seconds

```

```

program start
  repeat forever
    do MAS

```

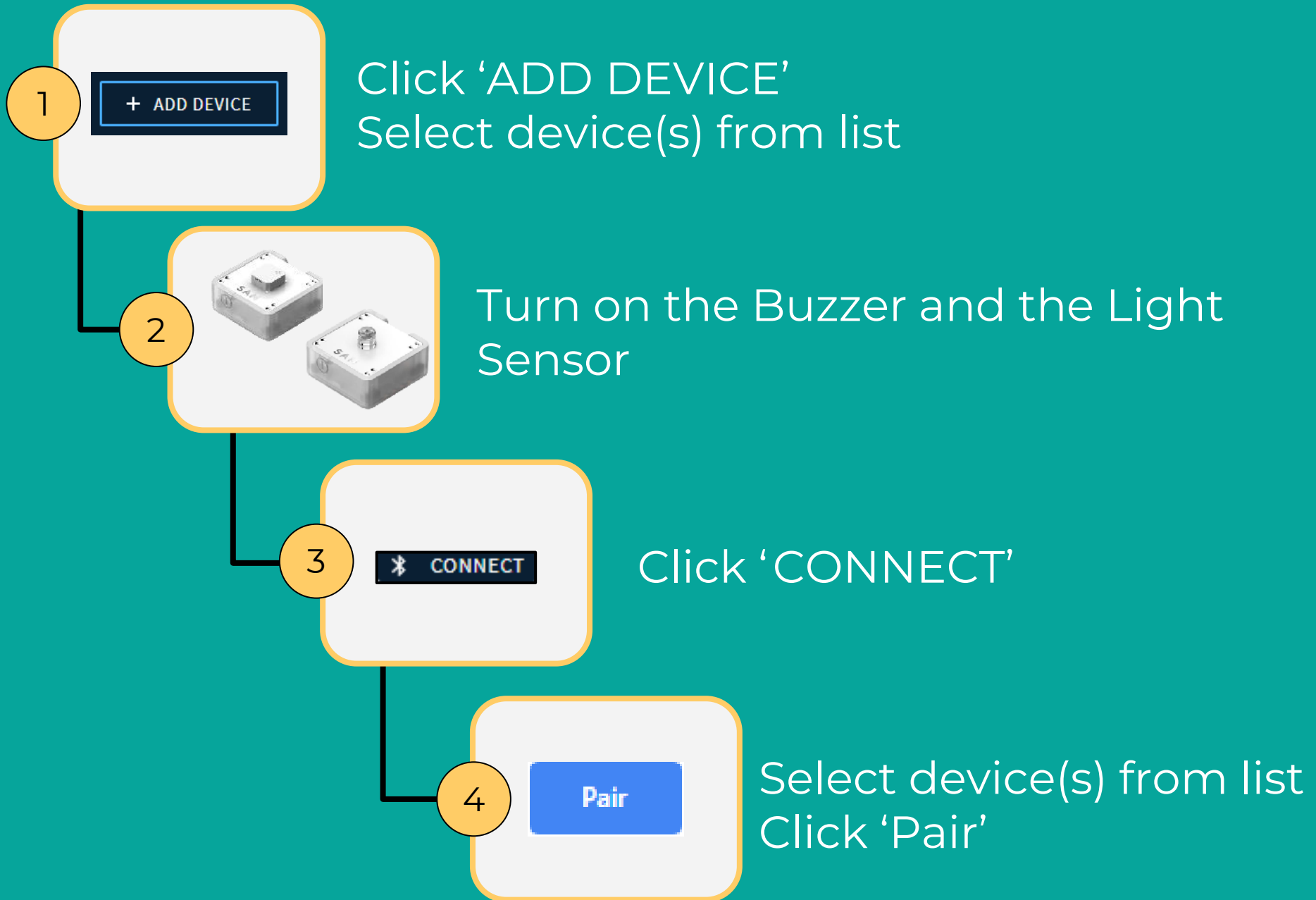
Test your program!

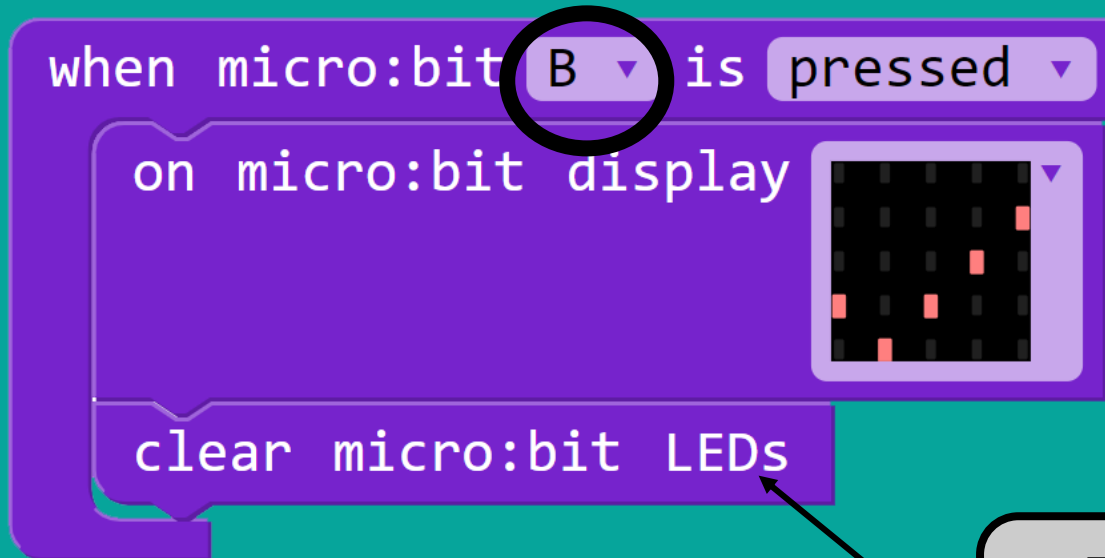
When the program runs, M.A.S.'s location will flash.

When the 'A' button is pressed, the LEDs will show 'door closed'.





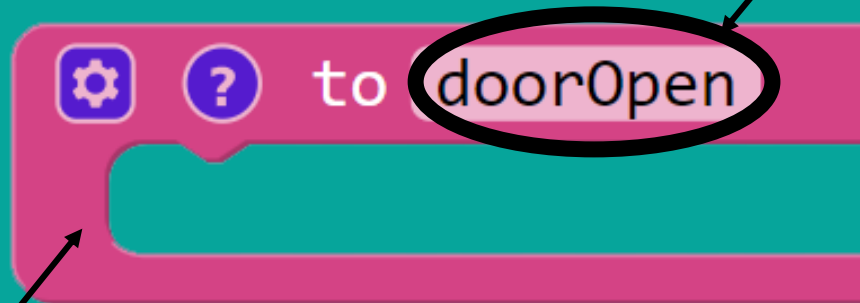




From  
'micro:bit'  
'Actions'

Code a program that activates an alert when Light Sensor values indicate the 'door' has been opened

Rename the function by entering text.



From  
'Functions'

1

2

3

4

5

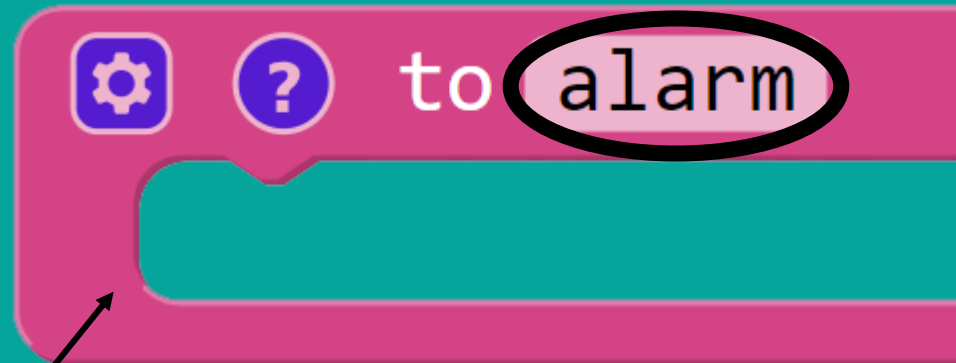
# Challenge

```

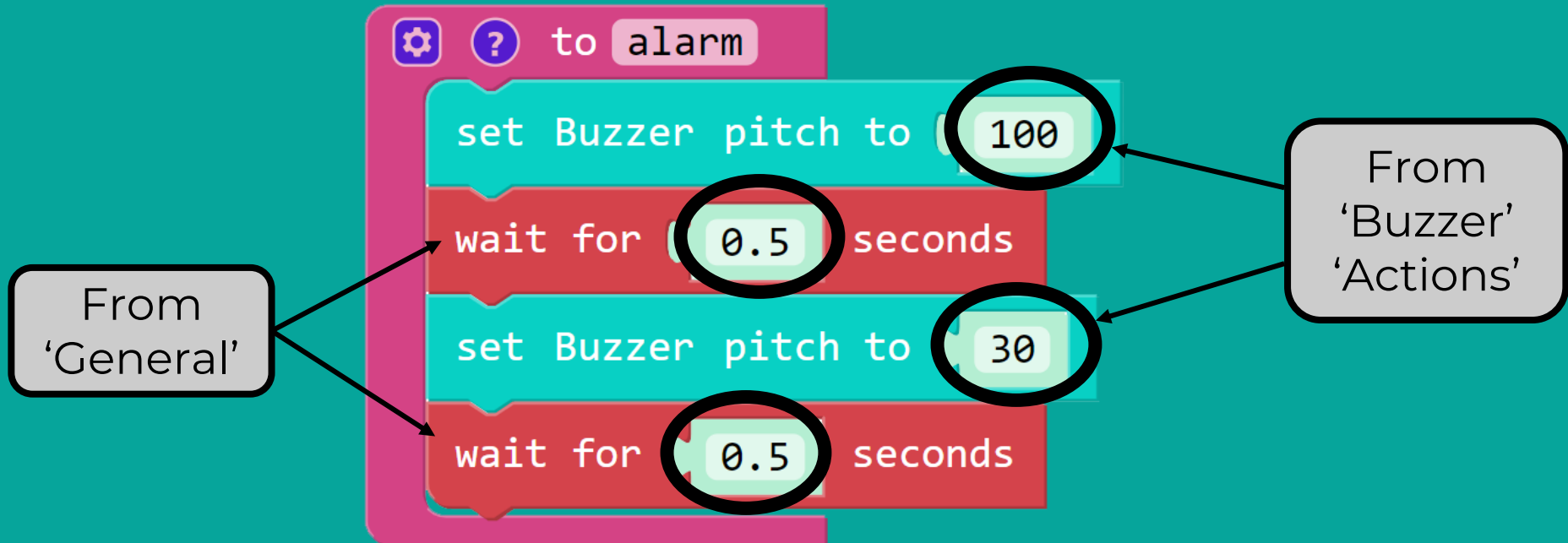
to doorOpen
  clear micro:bit LEDs
  on micro:bit plot X: 2 Y: 0
  on micro:bit plot X: 3 Y: 1
  on micro:bit plot X: 3 Y: 3
  on micro:bit plot X: 2 Y: 4
  
```

From  
'micro:bit'  
'Actions'

From  
'micro:bit'  
'Actions'



From  
'Functions'



1

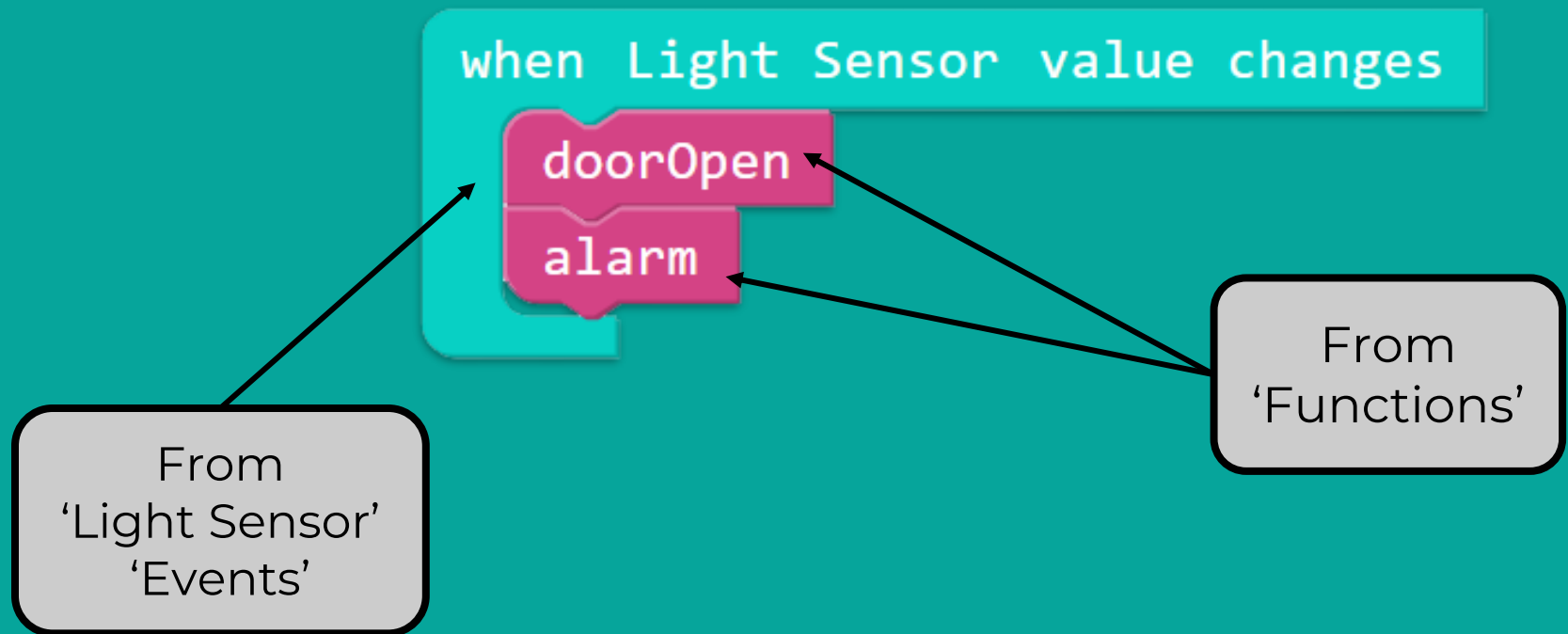
2

3

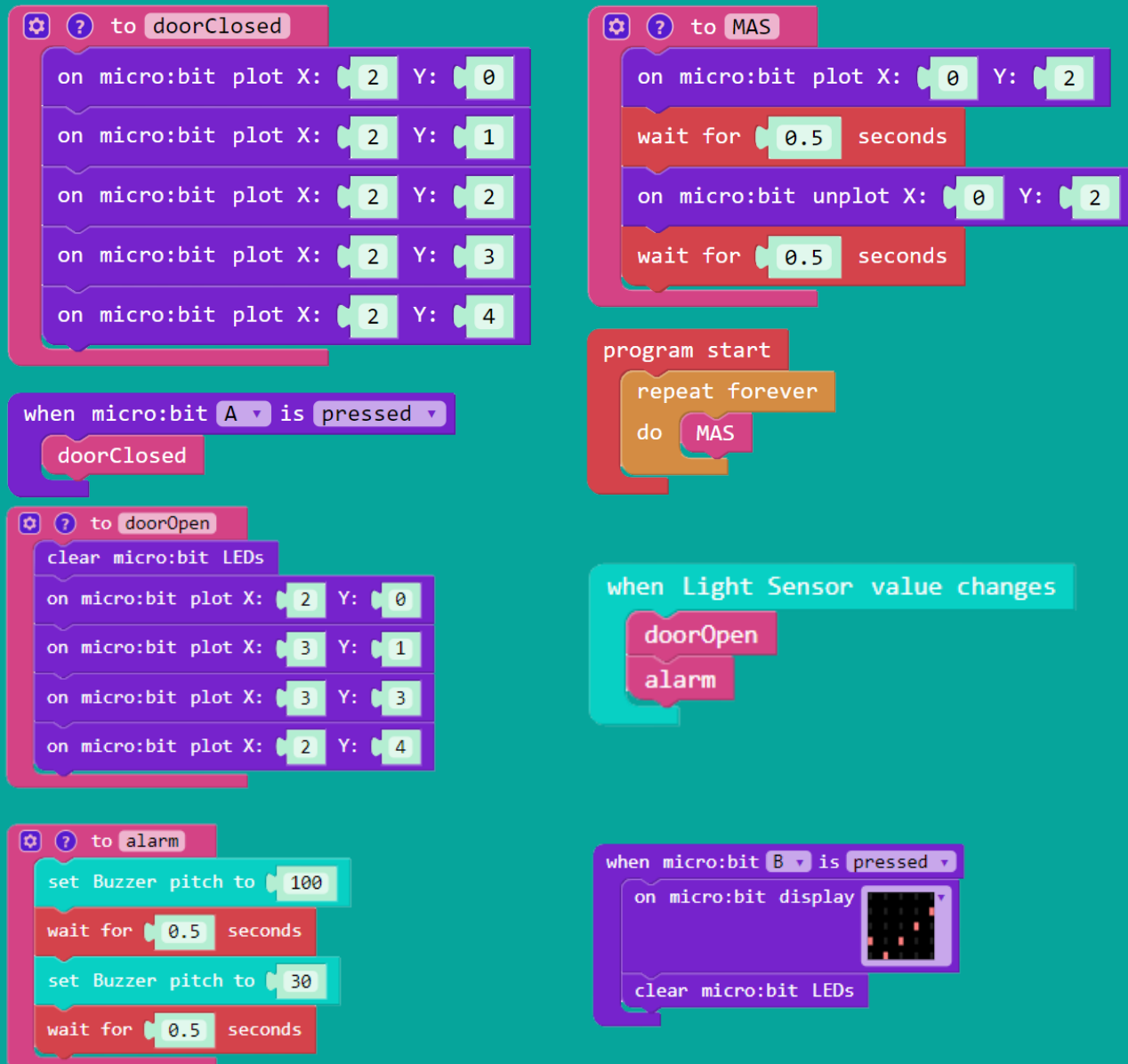
4

5

Challenge



# Challenge: Test your program





There are four functions within this program:



'doorClosed':  
a straight line  
displays

```

to doorClosed
  on micro:bit plot X: 2 Y: 0
  on micro:bit plot X: 2 Y: 1
  on micro:bit plot X: 2 Y: 2
  on micro:bit plot X: 2 Y: 3
  on micro:bit plot X: 2 Y: 4
  
```

```

when micro:bit A is pressed
  doorClosed
  
```

'doorOpen':  
four LEDs  
display

```

to doorOpen
  clear micro:bit LEDs
  on micro:bit plot X: 2 Y: 0
  on micro:bit plot X: 3 Y: 1
  on micro:bit plot X: 3 Y: 3
  on micro:bit plot X: 2 Y: 4
  
```

'alarm':  
Buzzer two-  
tone alert

```

to alarm
  set Buzzer pitch to 100
  wait for 0.5 seconds
  set Buzzer pitch to 30
  wait for 0.5 seconds
  
```

'MAS':  
an LED  
flashes

```

to MAS
  on micro:bit plot X: 0 Y: 2
  wait for 0.5 seconds
  on micro:bit unplot X: 0 Y: 2
  wait for 0.5 seconds
  
```

```

program start
  repeat forever
    do MAS
  
```

```

when Light Sensor value changes
  doorOpen
  alarm
  
```

```

when micro:bit B is pressed
  on micro:bit display
    clear micro:bit LEDs
  
```