

Micro:bit Programming

Algrthm

Micro:bit Programming

Sqnc

Micro:bit Programming

Rpttn

Micro:bit Programming

Slctn

Micro:bit Programming

Lp

Micro:bit Programming

whl Lp

Micro:bit Programming

Cmmnt

Micro:bit Programming

vrbl

Micro:bit Programming - sensors

MicroBits have a number of **sensors** on them.
These can be used to measure things.

Sensors work best when combined with
variables.

Micro:bit Programming - sensors

One of the sensors is the **accelerometer**.

This measures speed, movement, direction and how the micro:bit is tilted.

It can be used to warn the sailor if the boat is in danger of capsizing...

```
accelerometer.get_x()
```

Micro:bit Programming - sensors

Using the **Python Editor**...

Write a program to measure the tilt of the micro:bit

Challenges:

1. how sensitive is the tilt reading?
2. far does the reading go?
3. what happens when it goes the other way?
4. what is a sensible reading to alert the user at?
5. can you measure the backwards/forwards tilt?

Micro:bit Programming - sensors

```
REPEAT FOREVER
```

```
  SET reading TO accelerometer.getx()
```

```
  IF tilt is too much
```

```
    DISPLAY something
```

```
  ELSE
```

```
    DISPLAY “-”
```

Micro:bit Programming - sensors

```
REPEAT FOREVER
  SET reading TO accelerometer.getx()
  IF reading > 20:
    DISPLAY "X"
  ELSE
    DISPLAY "-"
```

Micro:bit Programming - sensors

```
REPEAT FOREVER
  SET reading TO accelerometer.getx()
  IF reading > 20:
    DISPLAY "R"
  ELSE IF reading < ???:
    DISPLAY "L"
  ELSE
    DISPLAY "-"
```

```
1 # Add your Python code here. E.g.  
2 from microbit import *  
3  
4  
5 while True:  
6     reading = accelerometer.get_x()  
7  
8     if reading > 20:  
9         display.show("R")  
10  
11     elif reading < -20:  
12         display.show("L")  
13  
14     else:  
15         display.show("-")  
16
```