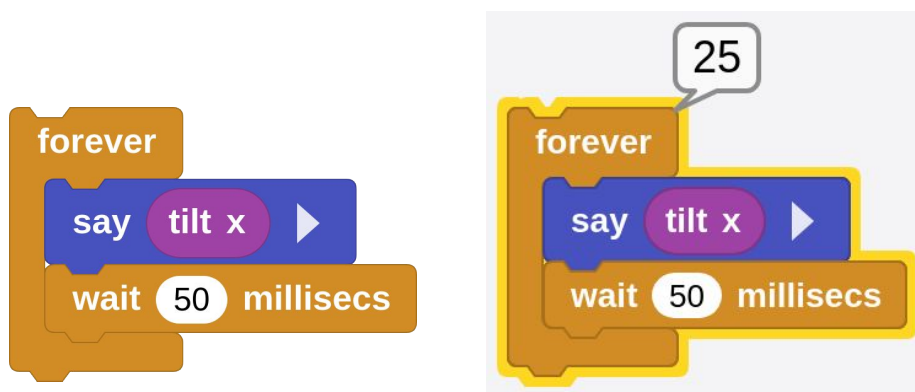# MicroBlocks®

micro:bit | Sensors

Libraries: **Basic Sensors** **LED Display**
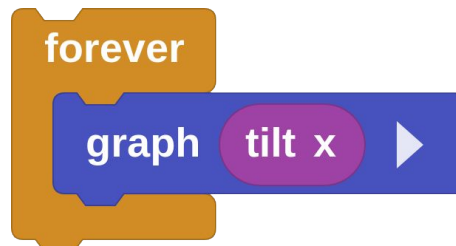
Blocks from: **Control** **Operators** **Output**

The micro:bit has many sensors built right in! They include tilt, temperature, buttons, and light sensors.

Click on a tilt x block by itself to see what number it reports. Then use this script to show a sensor's value continuously as it changes.

```
forever
  say  tilt x  ▶
  wait  50  millisecs
```

```
25
forever
  say  tilt x  ▶
  wait  50  millisecs
```

Graphing is another way to explore sensors. Start this script, then click [⎍] to see the graph.

```
forever
  graph  tilt x  ▶
```

As you tilt the micro:bit, you will see the graph change. Try shaking it gently to see something like this!

Data Graph

https://microblocks.fun

micro:bit | Sensors

These scripts change the LED display when the micro:bit is tilted.

```
when  tilt x  <  -20
display
wait 100 millisecs
clear display
```

```
when  tilt x  >  20
display
wait 100 millisecs
clear display
```

```
when started
forever
  if  light level  <  20
    display
  else
    clear display
  wait 100 millisecs
```

The micro:bit also has a light sensor. This script turns on the LED display when it gets dark. Cover the micro:bit with your hand to see how the micro:bit responds!

The micro:bit also has a temperature sensor. This graph shows the temperature every minute over the course of many hours. The data were collected with the micro:bit in the freezer and the USB cable coming out to a laptop. Why do you think the temperature goes up and down?

```
when started
forever
  graph  temperature (°C)  ▶
  wait 60000 millisecs
```

https://microblocks.fun