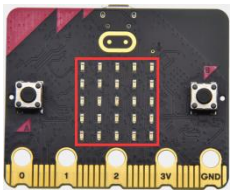
Keyestudio

Project 8: Detect Light Intensity

1. Description

This project will introduce how Micro:bit detects the external light intensity. Since Micro:bit doesn’ t come with a photosensitive sensor, the detection of light intensity is completed through the LED matrix.

The LED matrix is used to sense the surrounding light and repeatedly converts the LED into input and samples the voltage decay time. The light intensity detected is a relative value.



(Light Intensity Area)

2. Components Needed

		
Micro:bit * 1	USB Cable * 1	

3. Test Code

You can upload the code directly from the tutorial (read the "Development Environment Configuration" file if in doubt).

Code:

```
from microbit import *
while True:
    Lightintensity = display.read_light_level()
    print("Light intensity:", Lightintensity)
    sleep(100)
```

4. Code Explanation

from microbit **import** *	Import the library file of micro:bit
gesture = accelerometer.current_gesture()	Set accelerometer.current_gesture() to gesture
while True:	This is permanent loop, and micro bit executes the code
Lightintensity = display.read_light_level()	Set display.read_light_level() to Lightintensity
print("Light intensity:", Lightintensity)	BBC microbit REPL prints the detected light intensity value

sleep(100)	Delay in 100ms

5. Test Result

Download code onto micro:bit board, don’ t plug off USB cable. Click “REPL” and press the reset buttons, the light intensity value will be displayed, as shown below.

Covering the LED dot matrix, the intensity value is 0; on the contrary, the intensity value increases when placing micro:bit board under the sun.