

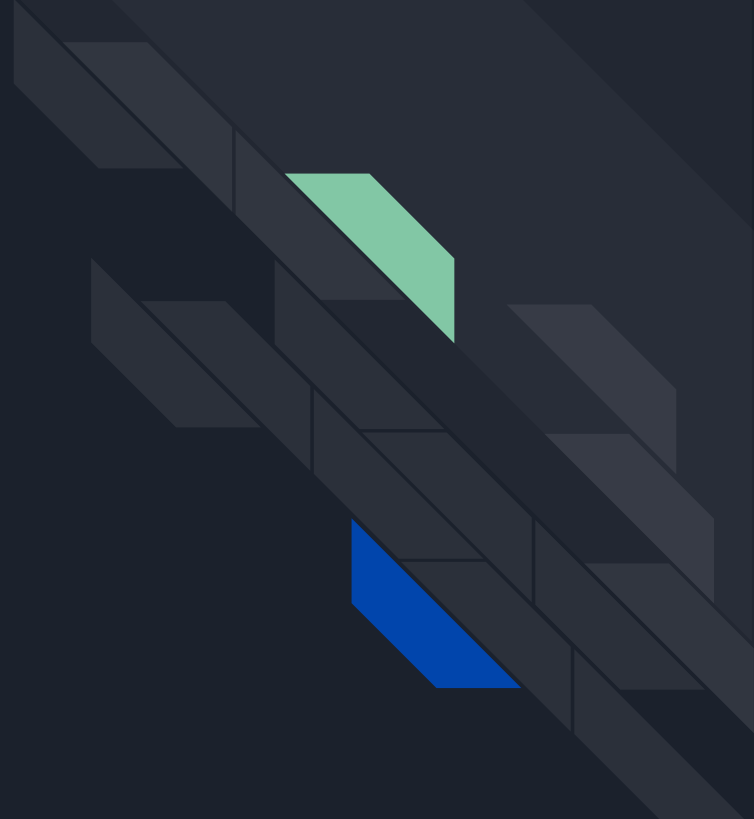
Micro bits!



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Some things we will discuss -

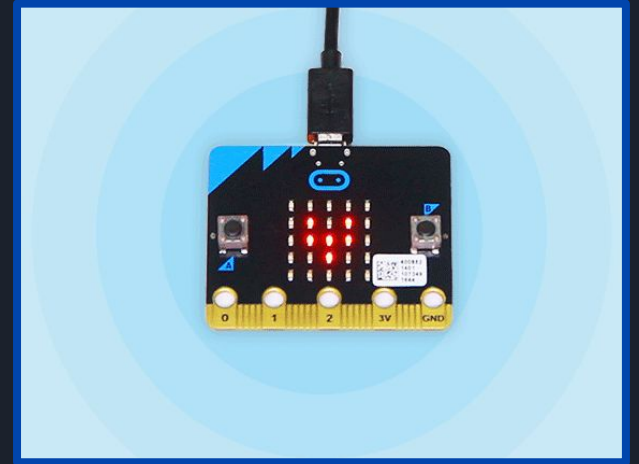
- What is a micro bit?
- What makes a micro bit?
- What can you do with them?
- Comparing and contrasting Micro Bits with Arduinos
- How do they work?
- History of Micro Bits
- The importance of Micro Bits



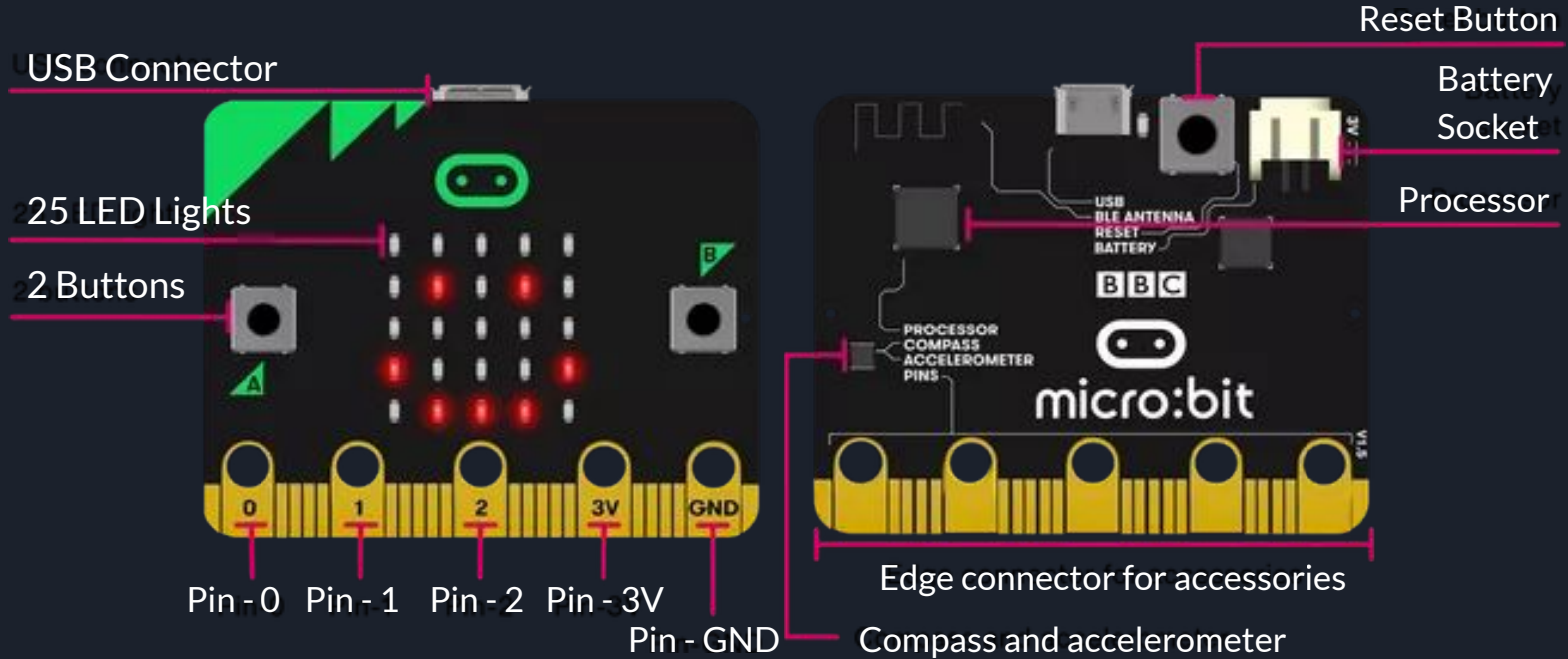
What is a Micro bit?

- A small system made for coding small ideas
- For example you could code it to

 - Show a small message
 - Play a mini game
 - A random generator
 - Power LEDS
 - Much more!



Components of a Micro Bit



Micro Bits VS Arduinos

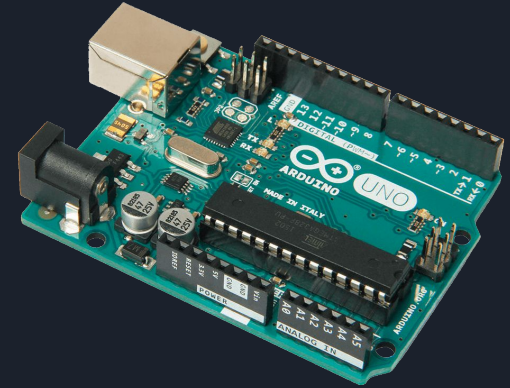
Although Micro Bits and Arduinos look very similar, they are actually quite different! Both have different abilities, capabilities, limits, and accomplish similar features. However, they complement one another more often than not.

Micro:Bit

Micro Bits are very small and compact, however they have a lot of power and RAM, 16KB to the Arduino's 2KB! It has less extensions though, making it limited in its capabilities. They can be programmed in many languages.

Arduino

Unlike Micro Bits, Arduinos are usually larger and are less like small computers and more like machines that reads input and does something based on that input. Arduinos are often used in more complicated projects due to its many extensions throughout the years. They can be programmed with a relative of C



How do Micro bits work?

- Plug the micro bit with a micro USB cable and to your computer
- Should show a yellow light and sometimes red light at the bottom
- Can code through python or using select bars
 - <https://python.microbit.org/v/1.1>
 - <https://makecode.microbit.org/>
- Download to your computer
- Drag to microbit folder
- Wait until its fully done
- See it work in micro bit



The screenshot shows the Python Microbit IDE. At the top, there are icons for file operations (download, upload, refresh), a search icon, and a help icon. The main area is a code editor with a dark background. The code is as follows:

```
from microbit import *

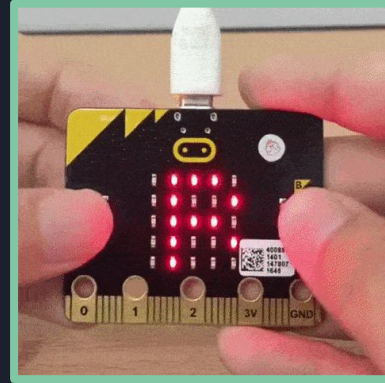
while True:
    display.scroll("Hello, World!")
    display.show(Image.HEART)
    sleep(2000)
```



What can Micro bits be used for?

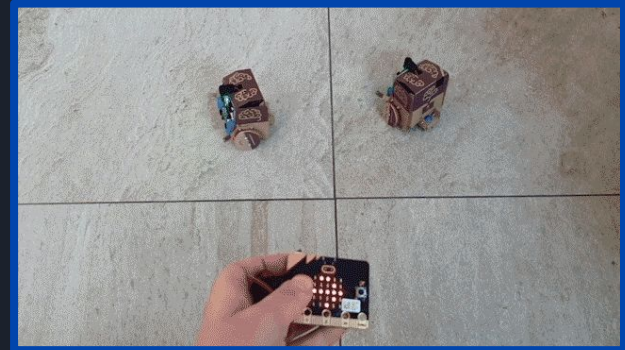
Simple uses

- Make words appear in flashing lights
- Can power a small game
- Can make simple drawings appear

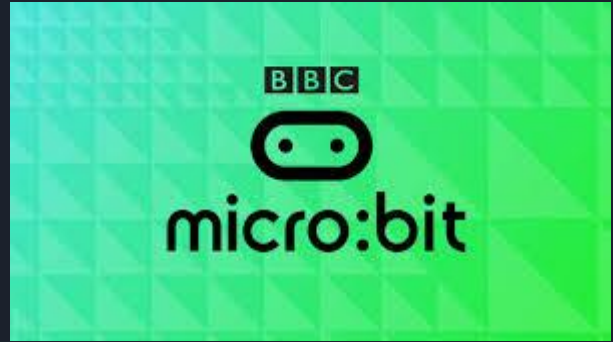


Advanced uses

- Power cameras
- Chose playlists
- Control musical instruments
- Control robots



History of Micro bits

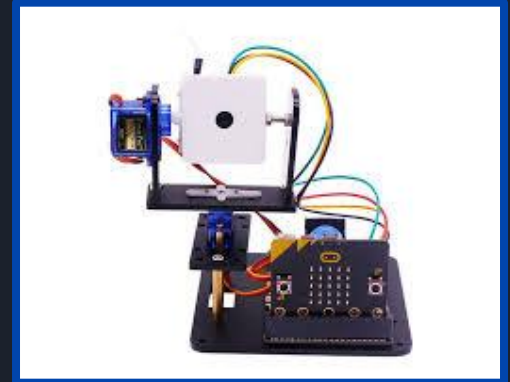


- Originally made in BBC company
- They started planning it in 2012
- Wanted to send it to every 11-12 year old in Britain starting from oct. 2015
- Only some teachers got them in september
- Planned to make it for sale by end of 2015 but didn't happen until March 2016
- In 2015, BBC had taken in many manufactures to help make micro bits
- Successful business

Why micro bits are important

- Can educate kids and people in fun ways
 - Learn about coding
 - How computers and micro bits work
 - Could help them in future careers if interested

- Can be useful in many different ways
 - For cameras
 - Robots
 - more





bibliography

- https://en.wikipedia.org/wiki/Micro_Bit#:~:text=The%20Micro%20Bit%20was%20designed.Micro%20for%20computing%20in%20education.
- [Comparison Between Micro:Bit and Arduino](#)
- <https://www.bbc.co.uk/newsround/35862642>
- [What is an Arduino?](#)
- [Growing Snake Game](#)