

What is Python?

Python is a text-based programming language that can be used in a variety of ways, for example making word processing programs or web browsers. Due to its versatility Python has proven itself to be a powerful language indeed and has been used by many large companies and organisations such as Google and NASA.

Python is a simple language with its code easy to read as well as write. Within Python there are what are called libraries. These libraries contained preprogrammed commands that can be referenced within your programs, making it easier and quicker to write code.

Installing Python

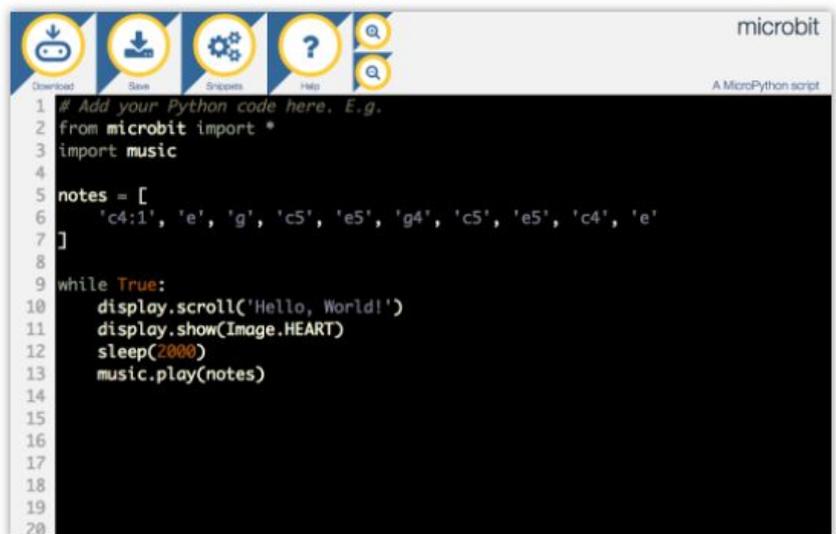
To use Python on the Microbit, you don't need to install anything on your computer. Head on over to the Microbit website (<http://microbit.org/code>) and select the Python editor.

Python Editor

Our Python editor is perfect for those who want to push their coding skills further. A selection of snippets and a range of premade images and music give you a helping hand with your code. Powered by the global Python Community.

Let's Code

Reference



```
1 # Add your Python code here. E.g.
2 from microbit import *
3 import music
4
5 notes = [
6     'c4:1', 'e', 'g', 'c5', 'e5', 'g4', 'c5', 'e5', 'c4', 'e'
7 ]
8
9 while True:
10     display.scroll('Hello, World!')
11     display.show(Image.HEART)
12     sleep(2000)
13     music.play(notes)
14
15
16
17
18
19
20
```

From here you can start writing your own program in Python to be later downloaded and installed on your Microbit.

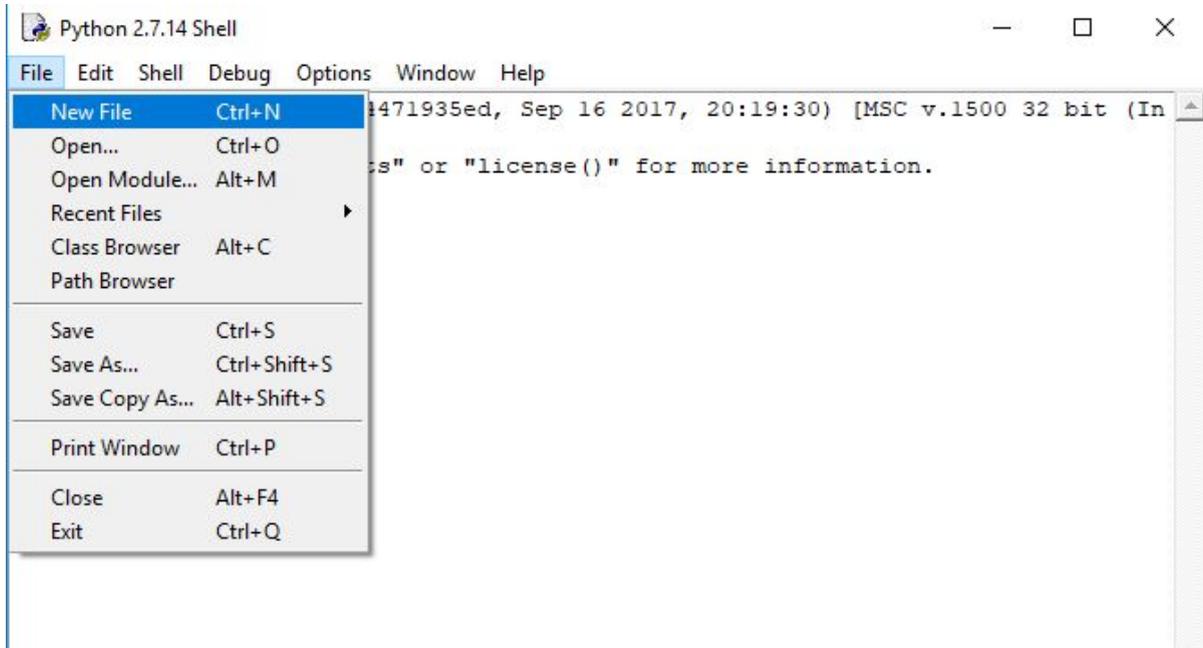


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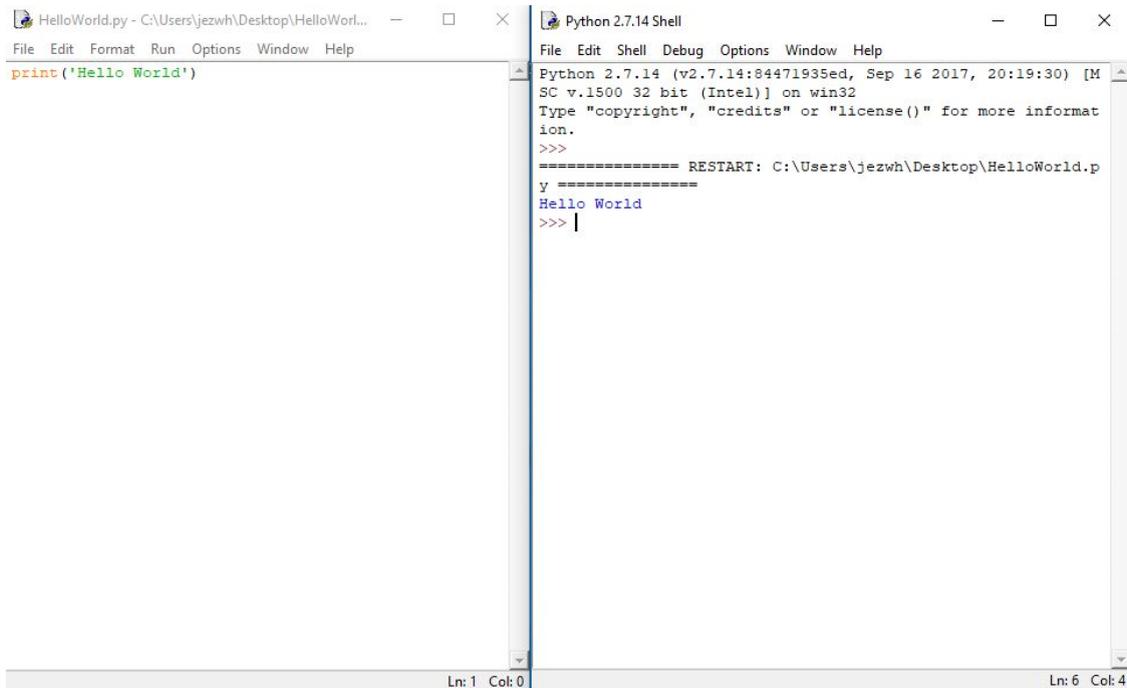
If you would like to install Python on your computer, you can do this by simply visiting the official Python website (<https://www.python.org>) and click on the Download option. Follow the simple instructions on how to install it on either your Windows machine or Mac.

Once installed, open up the Python program. You will be greeted by the Python IDLE which is an area to allow you to write and run your Python code.

Selecting "New File" from the File menu within the IDLE will open up a new window. This is where you will write your Python code.



Always remember to save your work as you go along. Once you are ready to test your code, press F5 to run it in the IDLE.



Scratch and Python

There are a great deal of Python elements that are used in Scratch. Although they may look a little different, they pretty much do the same thing. The help chart below will show you how some of the most common Scratch commands are translated into Python.

Scratch to Python help chart

`print('Hello')`



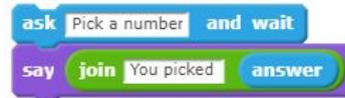
`Count = 0`



`Word = 'Winner'`



`Number = input('Pick a number')`
`Print ('You picker ' + Number)`



`Count = Count + 1`



`Count + 5`



`Count - 5`



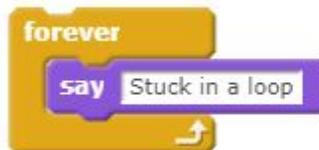
`Count * 5`



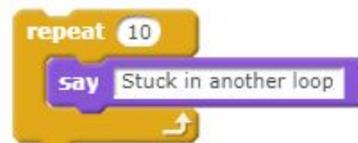
`Count / 5`



`while True:`
 `print ('Stuck in a loop')`



`for i in range (10):`
 `print ('Stuck in another loop')`



`Count == 2`



`Count > 2`



`Count < 2`



```
from random import randint
Count = randint(1, 10)
```



```
and
```



```
or
```



```
not
```



```
print (Word + Count)
```



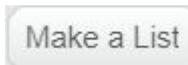
```
len(Word)
```



```
Word(0)
```



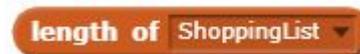
```
ShoppingList = list()
```



```
ShoppingList.append(Word)
```



```
len(ShoppingList)
```



```
while Count != 6:
    print('Counting')
```



```
if 'Soap' in ShoppingList:
    print('Smelly')
```

