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Lab on : Programming with Python

Theory: Python is a very simple programming language so even if you are new to programming, you can learn python without facing any issues. Python is free to download and use. This means you can download it for free and use it in your application.

Python is a general-purpose language sometimes referred to as utilitarian which is designed to be simple to read and write. The point that it's not a complex language is important. The designers placed less of an emphasis on conventional syntax, which makes it easier to work with, even for non-programmers or developers.

Furthermore, because it's considered truly universal and used to meet various development needs, it's a language that offers a lot of options to programmers in general. If they begin working with Python for one job or career, they can easily jump to another, even if it's in an unrelated industry. The language is used for system operations, web development, server and administrative tools, deployment, scientific modeling and much more.

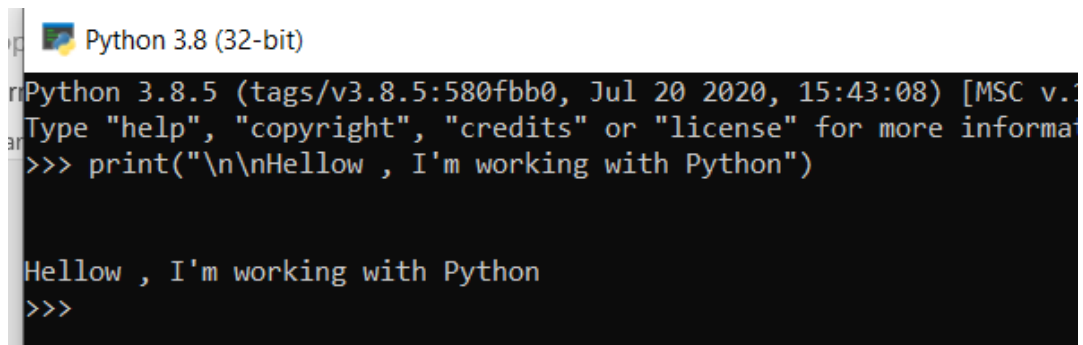
But, surprisingly, many developers don't pick up Python as their primary language. Because it's so easy to use and learn, they choose it as a second or third language. This may be another reason why it's so popular among developers.

Plus, it just so happens that one of the biggest tech companies in the world Google uses the language for a number of their applications. They even have a developer portal devoted to Python, with free classes offered including exercises, lecture videos and more.

In addition, the rise in the use of the Django framework for web development and a decline in popularity of PHP has also contributed to Python's success, but, ultimately, it's the perfect storm just the right amount of developer and official support, as well as demand.

Some Code in python language :

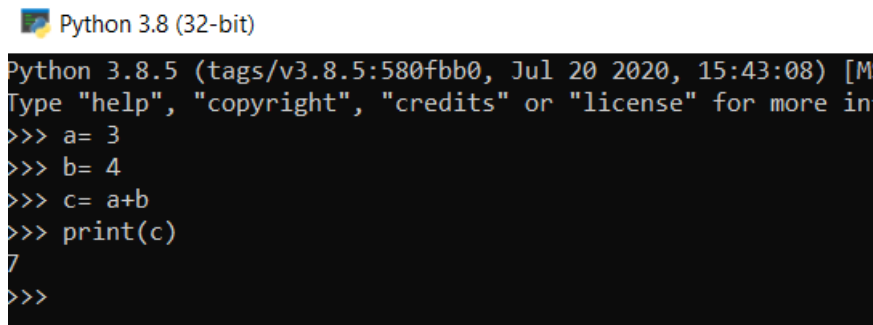
1. First code:



```
Python 3.8 (32-bit)
Python 3.8.5 (tags/v3.8.5:580fbb0, Jul 20 2020, 15:43:08) [MSC v.1420 64-bit (AMD64)]
Type "help", "copyright", "credits" or "license()" for more
>>> print("\n\nHellow , I'm working with Python")

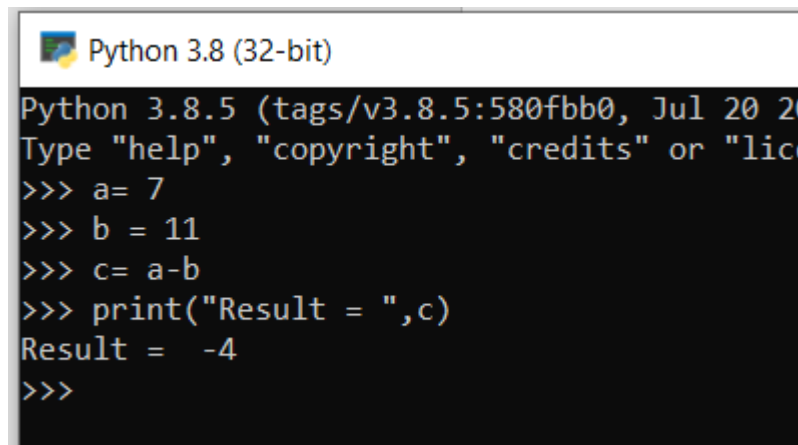
Hellow , I'm working with Python
>>>
```

2. Addition :




```
Python 3.8 (32-bit)
Python 3.8.5 (tags/v3.8.5:580fbb0, Jul 20 2020, 15:43:08) [MSC v.1420 64-bit (AMD64)]
Type "help", "copyright", "credits" or "license()" for more
>>> a= 3
>>> b= 4
>>> c= a+b
>>> print(c)
7
>>>
```

3. Subtraction :



```
Python 3.8 (32-bit)
Python 3.8.5 (tags/v3.8.5:580fbb0, Jul 20 2020, 15:43:08) [MSC v.1420 64-bit (AMD64)]
Type "help", "copyright", "credits" or "license()" for more
>>> a= 7
>>> b = 11
>>> c= a-b
>>> print("Result = ",c)
Result =  -4
>>>
```

4. Multiplication:


 Python 3.8 (32-bit)

```
Python 3.8.5 (tags/v3.8.5:580fbb0, Jul 20 2020, 15:4
Type "help", "copyright", "credits" or "license" for
>>> a=8
>>> b=7
>>> c=a*b
>>> print(c)
56
>>>
```

5. Division:

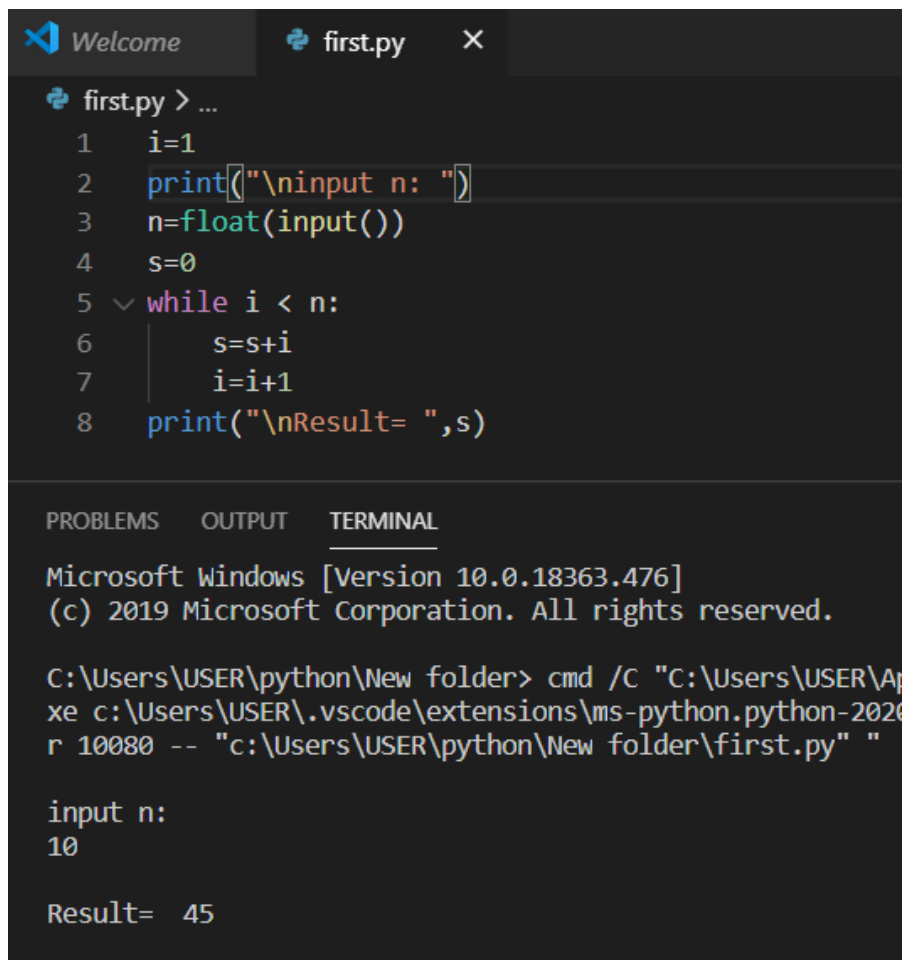
```
>>> print(c)
56
>>> d=4
>>> ans=c/d
>>> print(ans)
14.0
>>>
```

6. Input & print:

 Python 3.8 (32-bit)

```
Python 3.8.5 (tags/v3.8.5:580fbb0, Jul 20 2020, 15:43:08) [MSC v.1926 32 bi
Type "help", "copyright", "credits" or "license" for more information.
>>> a = input()
Hello Compiler
>>> print(a)
Hello Compiler
>>>
```

7. Loop:



The image shows a Visual Studio Code window with a file named `first.py` open. The editor contains the following Python code:

```
1 i=1
2 print("\ninput n: ")
3 n=float(input())
4 s=0
5 while i < n:
6     s=s+i
7     i=i+1
8 print("\nResult= ",s)
```

Below the editor, the **TERMINAL** tab is active, showing the command prompt output:

```
Microsoft Windows [Version 10.0.18363.476]
(c) 2019 Microsoft Corporation. All rights reserved.

C:\Users\USER\python\New folder> cmd /C "C:\Users\USER\AppData\Local\Microsoft\Windows\Terminal\cmd.exe c:\Users\USER\.vscode\extensions\ms-python.python-2020.10.0\bin\python.exe -r 10080 -- "c:\Users\USER\python\New folder\first.py" "
```

The terminal shows the program's execution:

```
input n:
10

Result= 45
```

Conclusion: There are many benefits of learning Python, especially as your first language, which we will discuss. It is a language that is remarkably easy to learn, and it can be used as a stepping stone into other programming languages and frameworks. If you're an absolute beginner and this is your first time working with any type of coding language, that's something you definitely want. Python is widely used, including by a number of big companies like Google, Pinterest, Instagram, Disney, Yahoo!, Nokia, IBM, and many others. The Raspberry Pi which is a mini computer and DIY lover's dream relies on Python as it's main programming language too.