# Session 1

1. Setting up Jupyter Notebook / VS code
2. print() function
3. input() function
4. Variables

#### There are multiple ways in which we can set up your computer to code in Python. But the few recommended ways are to use Jupyter Notebook or VS code. Other options include IDLE, python's built-in editor, Atom, or PyCharm.

The reason we want to use an editor is to use the extensive features provided by them which include code auto-completion, easy-to-run-and-see output, and many more..

### Setting up Python

Setting up Python is a very easy process all you need to do is download the installer from the official website

##### *Windows user please note to check the box which says 'add to the path' when the installer is launched as highlighted in the below image*

##### *Students have the choice to use either jupyter notebook or VS code for this course.*

### Setting up Jupyter notebook

We will be installing a jupyter notebook inside the Python installation itself. So make sure you have installed Python and are working properly. To check if Python is working properly just open the command prompt (terminal for Mac users) and type in the commands "python" and press enter ("python3" for Mac users). You should get the output like the below image which will have the version number of the python that you would have installed.

**For Windows**

* open the command prompt and type

pip install jupyter



**For Mac**

* open Terminal and type

pip3 install jupyter

#### Once the installation process is over open the command prompt or terminal and type jupyter notebook

#### This should open a new browser window which is the Jupyter notebook

**NOTE: Don't close the terminal/command prompt while you are using jupyter notebook**



#### To learn about how to use a jupyter notebook Please check out the link below.

Jupyter Documentation

### Setting up VS code

Visual Studio Code is a popular editor by Microsoft. It supports the majority of the programming languages. It also has an extension store where we can install add-ons to help us customize the look and the features. Again it requires you to have Python installed and working. Please follow the steps in jupyter notebook installation to check if Python is installed and working properly.

#### Follow the below steps to install and set up the VS code.

1. Download the installer using the following link. VS code
2. Run the installer and follow the on-screen instructions. keep all the default settings.
3. Once the first 3 steps are completed follow the below video to set up Vs code for Python. *if not visible go to the videos folder*

# 2. print() function

The print function allows Python to output useful information. Anything we write in inverted quotes inside the function will come up as it is on the screen

**NOTE: Functions will always have open and close brackets**

print("hello world")

hello world

Anything written in inverted quotes is considered a string in Python. We will be learning about strings in detail in the next session.

# 3. input() function

Input function allows Python to take in input from users While taking inputs we have an option to prompt the user.

**NOTE: Functions will always have open and close brackets**

input("enter a number : ")

enter a number: 1000

'1000'

#### The above line of code does not make sense as we are taking input from the user and not storing it anywhere

#### To store data we need to use variables

# 4. Variables and Rules for naming variables

**Variables are nothing but reserved memory locations to store values. This means that when you create a variable you reserve some space in memory.** In other words, **Variables store data. Data can be of any data type.**



### Rules for naming variables

* A variable name must start with a letter or the underscore character
* A variable name cannot start with a number
* A variable name can only contain alpha-numeric characters and underscores (A-z, 0-9, and \_ )
* Variable names are case-sensitive (age, Age, and AGE are three different variables)

In the below cell, we are assigning the integer value 10 to the variable 'a'

a = 10

Having learned about variables we can use the input() function in a better way

a = input("enter a number : ")  
print(a)

enter a number: 1000  
1000

We will take one variable movie and assign a value using the input function

movie=input(‘enter your favorite movie character : ’)

print(movie)

enter your favorite movie character: Master Shifu

Master Shifu

In the above example, we are taking input and storing the data into variable a and later printing it out

You can also assign data to variables directly and solve math equations

a = 10  
b = 20  
c = a+b  
  
print(c)

30

**NOTE: We are not writing the variable name in inverted quotes** This is because we need to print the value of the data stored in the variable and not the character "a" itself.

**REVISION**

1. Understanding: python, syntax
2. input command
3. print command
4. Variable and its rules



**HOMEWORK**

1. Take input from users like name, age, fruit, etc., and print the information



1. Try to make a simple calculator to take 2 numbers as input and do the multiplication, division, and subtraction of the numbers.



1. Ask 3 people to enter their name and age. Display the details collected neatly using the print statement.

Example output.

Enter your name: Rejin  
 Enter your Age: 25  
 Enter your name: Vinay  
 Enter your Age: 25  
 Enter your name: Amey  
 Enter your Age: 26  
   
 Hello Rejin. Your Age is 25  
 Hello Vinay. Your Age is 25  
 Hello Amey. Your Age is 26

**HOMEWORK SOLUTION**

*#TASK 1*  
  
name =input("Enter your name : ")  
age = input("Enter your age : ")  
fruit = input("Enter your favorites' fruit: ")  
  
print(name)  
print(age)  
print(fruit)

Enter your name: omotec  
Enter your age: 5  
Enter your favorite fruit: robotics  
omotec  
5  
robotics

*#TASK 2*  
  
a = int(input("Enter a number: "))  
b = int(input("Enter a number: "))  
  
div = a/b  
sub = a-b  
mul = a\*b  
  
print(div)  
print(sub)  
print(mul)

Enter a number: 10  
Enter a number: 20  
0.5  
-10  
200

#TASK 3 Assigning a single value to a multiple variable

#TASK 4 Assigning different values to multiple variables

#TASK 5 Assign one value with a block letter variable and another with a small letter variable

#TASK 6 Taking input from the user with a message

#TASK 7 Taking input from the user as a list