Python Scripting

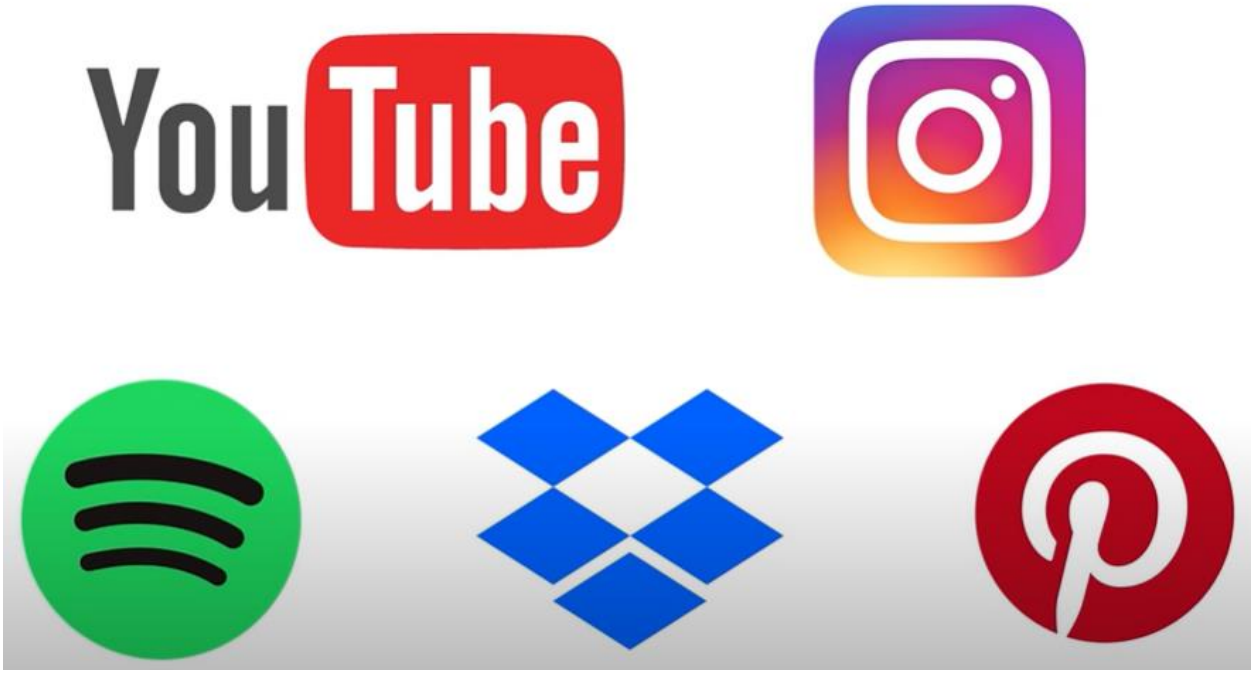
Python is a multipurpose programming language.

It is the most widely used programming language.

It is used for web development, data science and machine learning.

Using python and framework called Django, one can build very strong and dynamic python websites.

Popular companies whose websites are build using python included the following



Automation – DevOps

Python is also used in Automation of repetitive tasks which saves time and increase productivity among the members of the team.

Automation also helps to speed up the delivery of the software to the end users.

Automation is at the heart of DevOps culture.

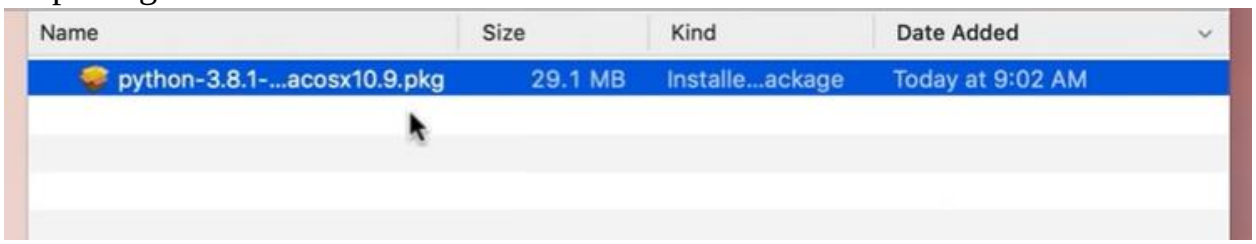
Our Main purpose is to Learn Python for the Automation Purposes.

Your First Python Program

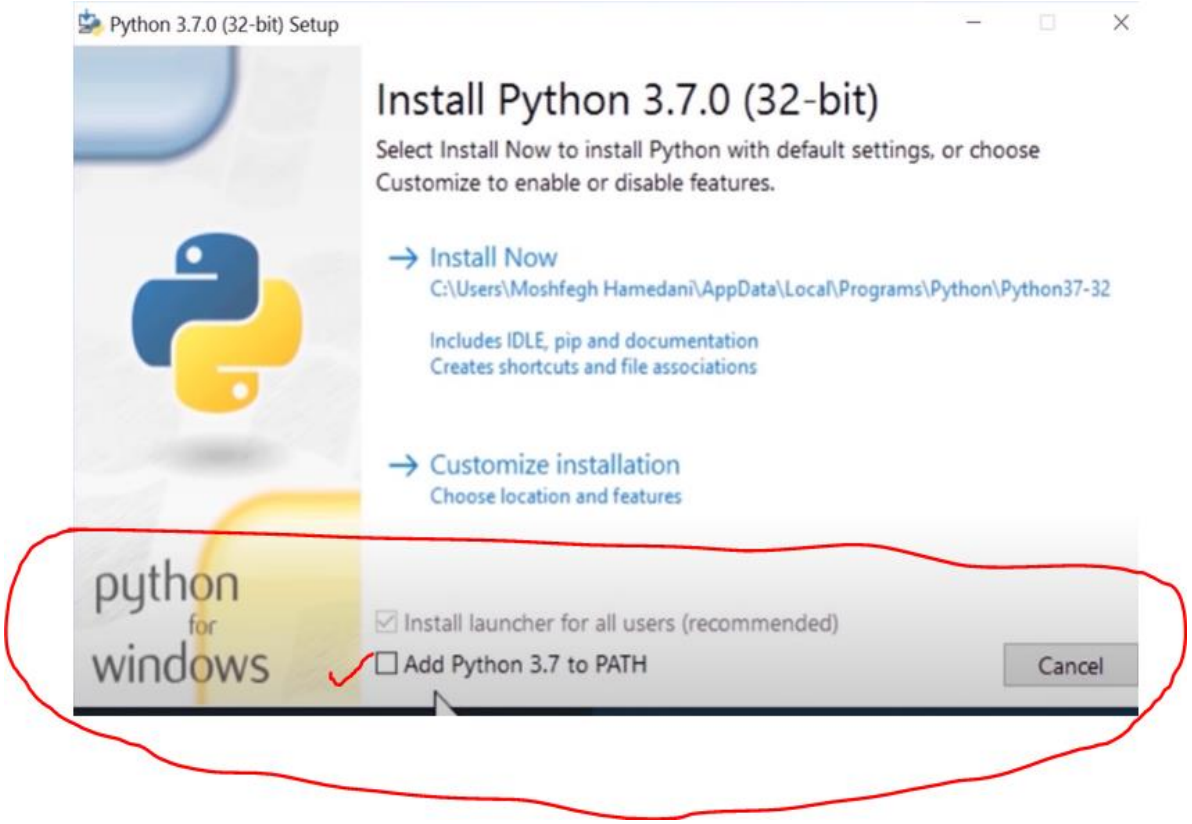
To start your first project in Python, let complete the following steps

1. https://www.python.org/downloads/
2. Click on

3. Download the latest version supported by your operating system
4. Check your download folder for the package below. Simply click on this package.



5. If you are on the window, make sure you check the box to add python to the path



6. Click on continue

7. Finalize the process of installing python in your server (Linux, macOS or Windows)

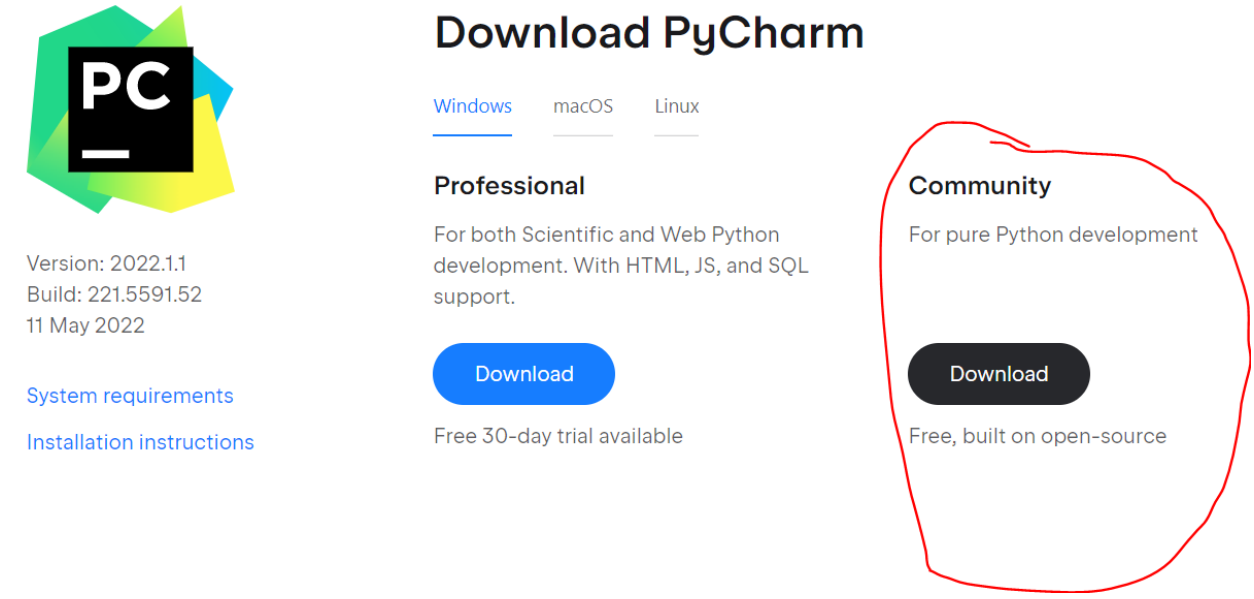
Install a Python Code Editor which will help us to write the code and execute it.

There are many code editors but the most famous one is the PyCharm

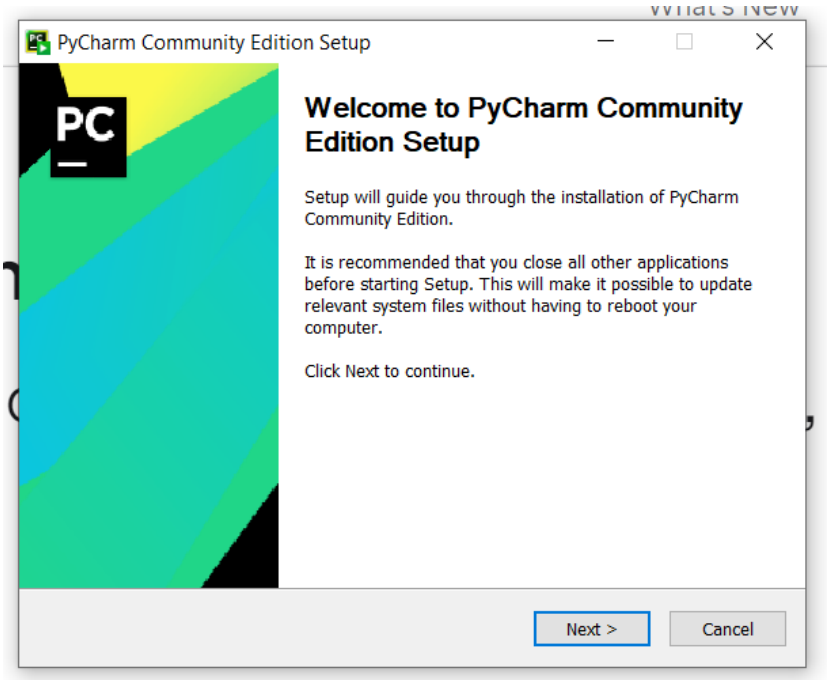
We can get this editor from https://www.jetbrains.com/pycharm/

Click on Download

Select the community version

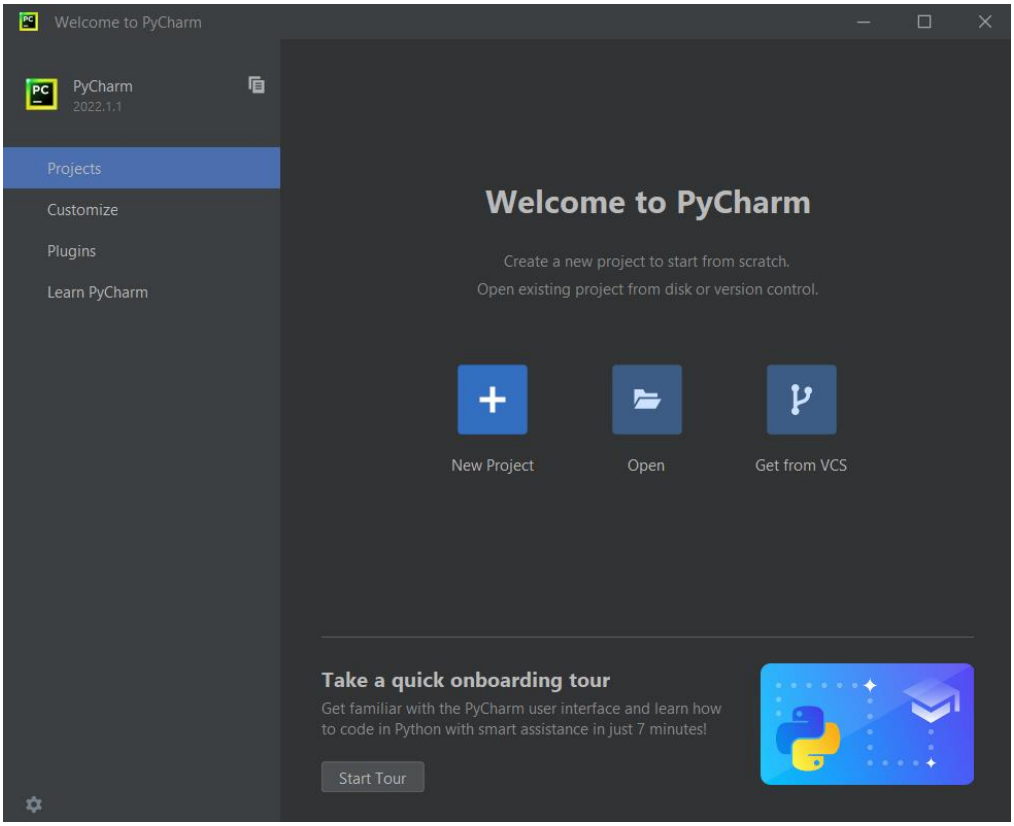


Follow all the steps given by the installation Wizard and complete the process of installing the editor

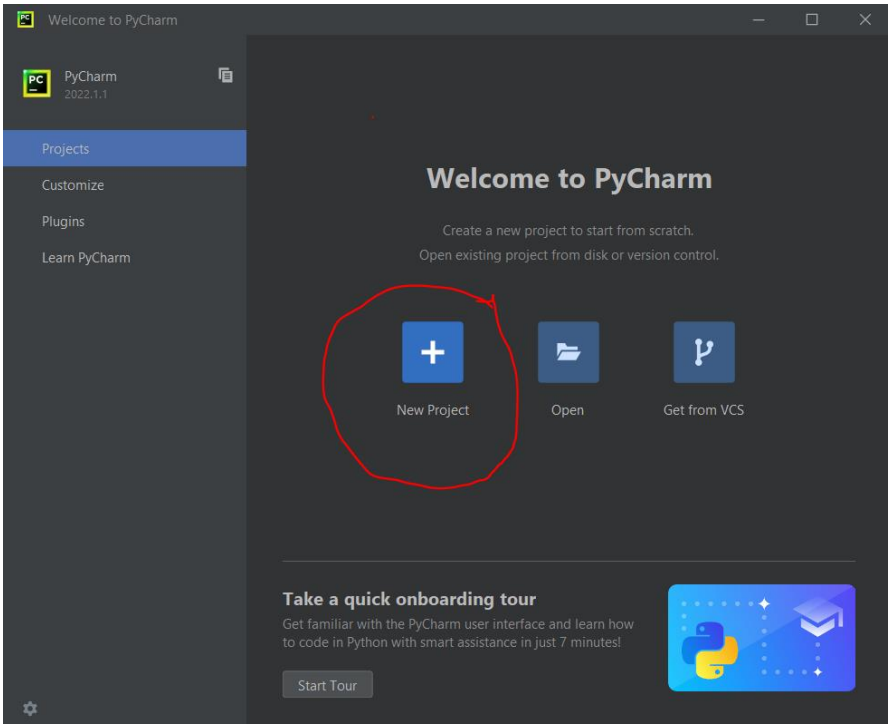


For macOS servers, you must drag the PyCharm CE package into the Applications folder

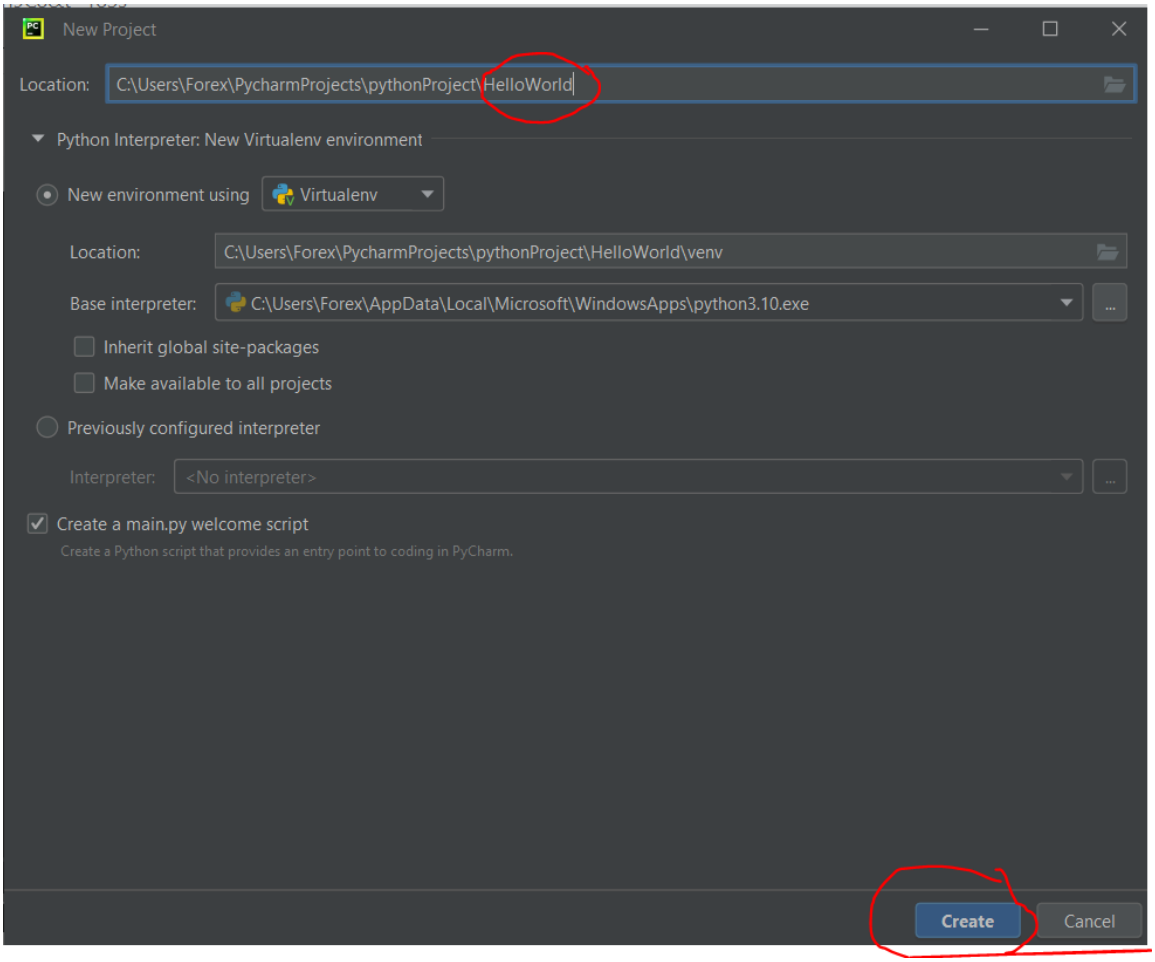
Immediately the installation is completed, you should see this page



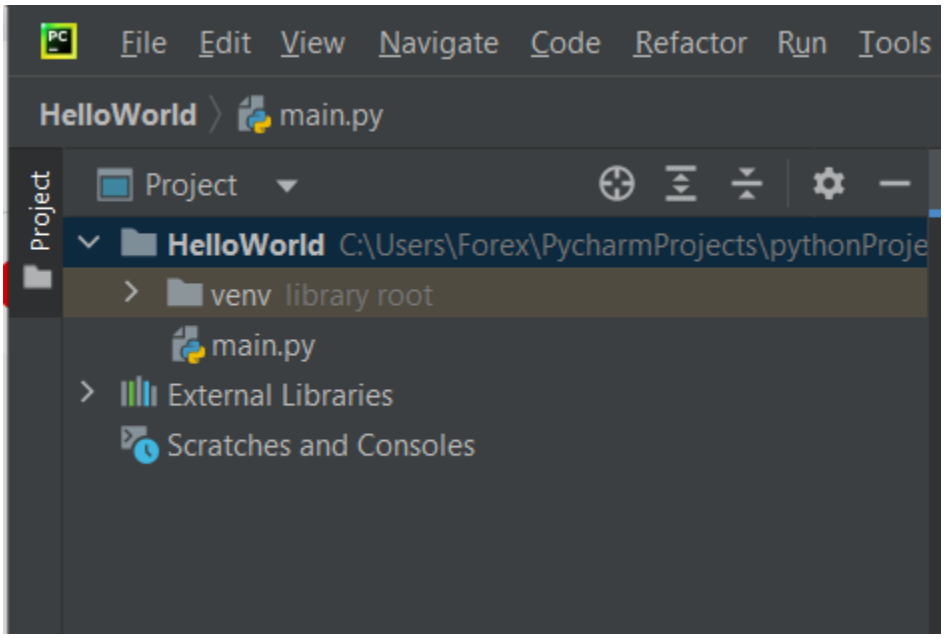
Click on create a new project



Let Add HelloWorld to the path and this is where our python project is going to be saved.



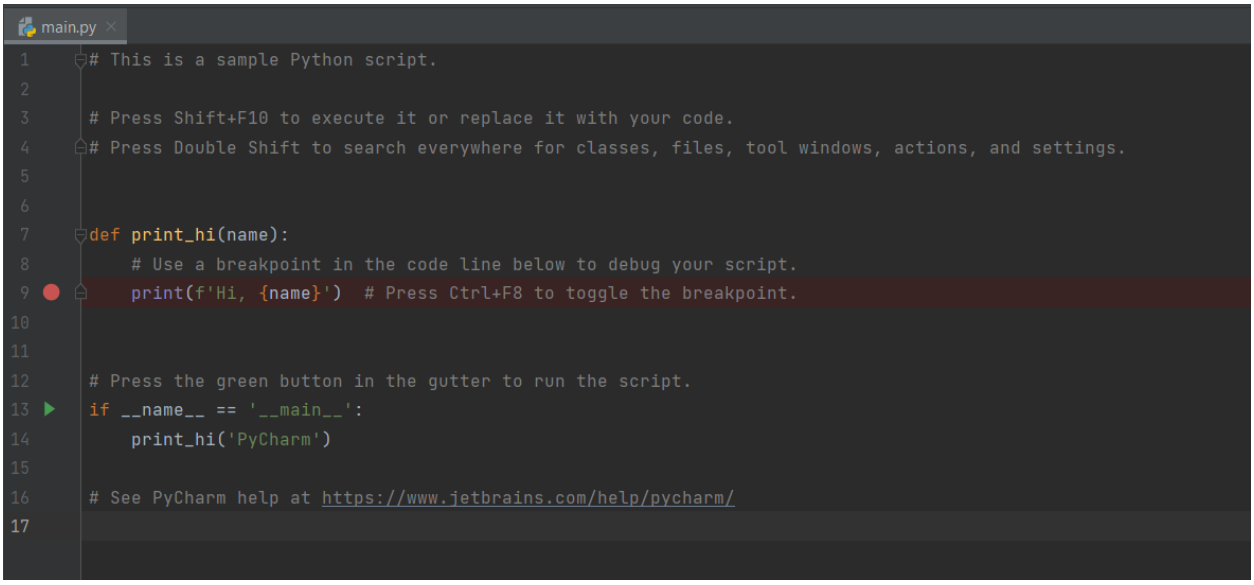
When completed, an editor should appear with the folder name HelloWorld



We have a folder called venv (Virtual environment) that came with PyCharm.

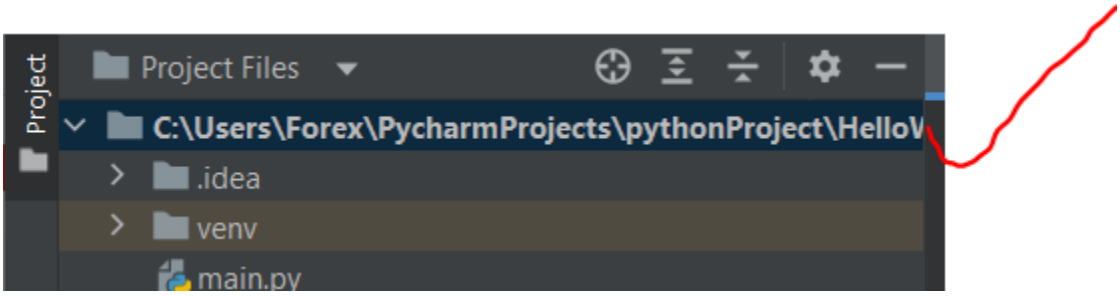
Locate a file called main.py

Most python DevOps project can consist of hundreds or even thousands of files.

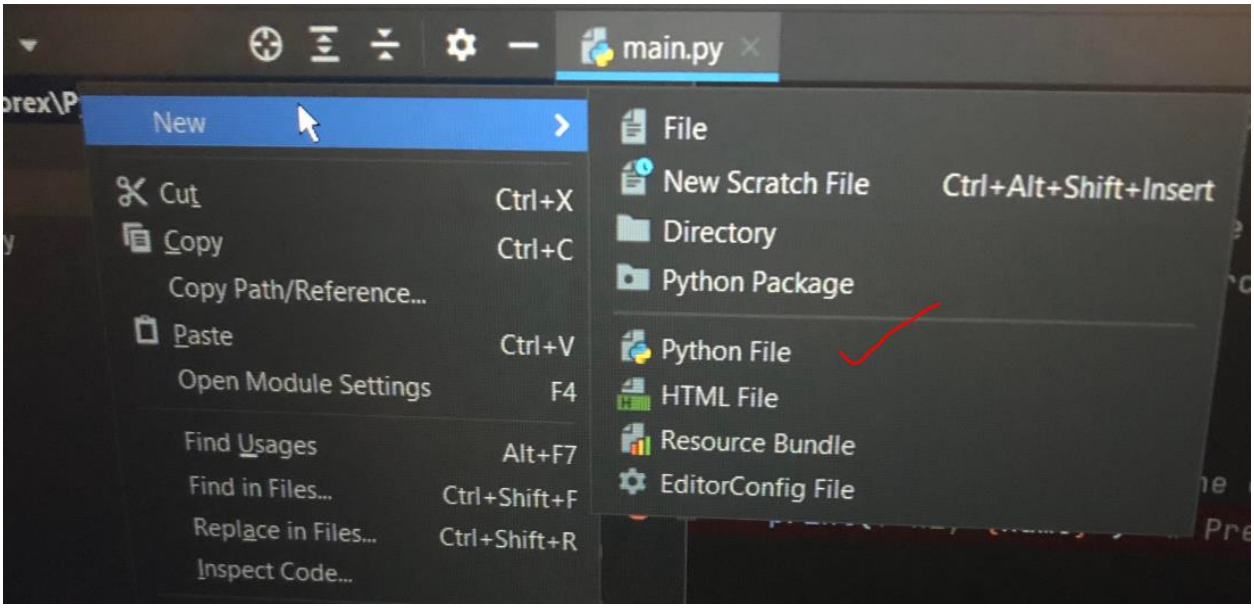


Let create our first file

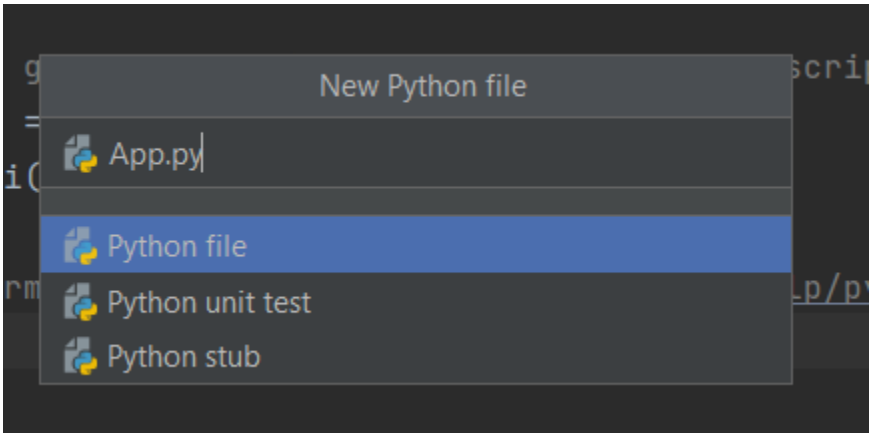
Right click on the path as shown below and select new



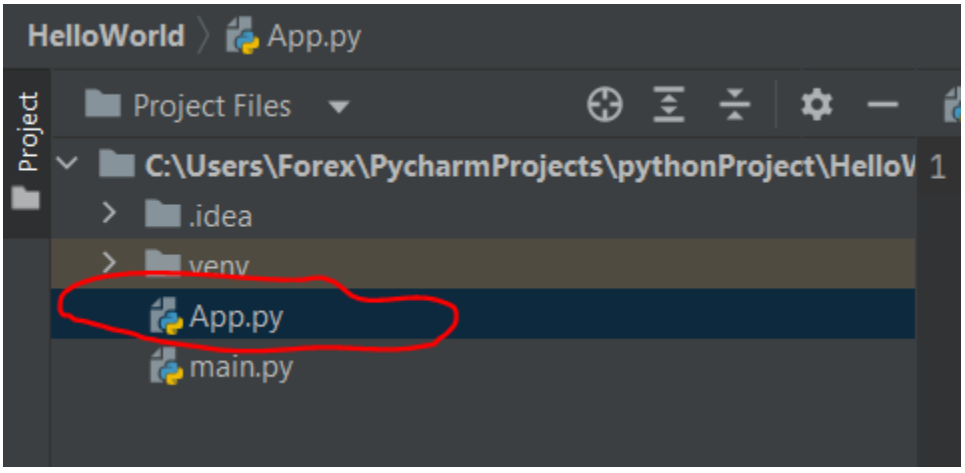
Select Python file



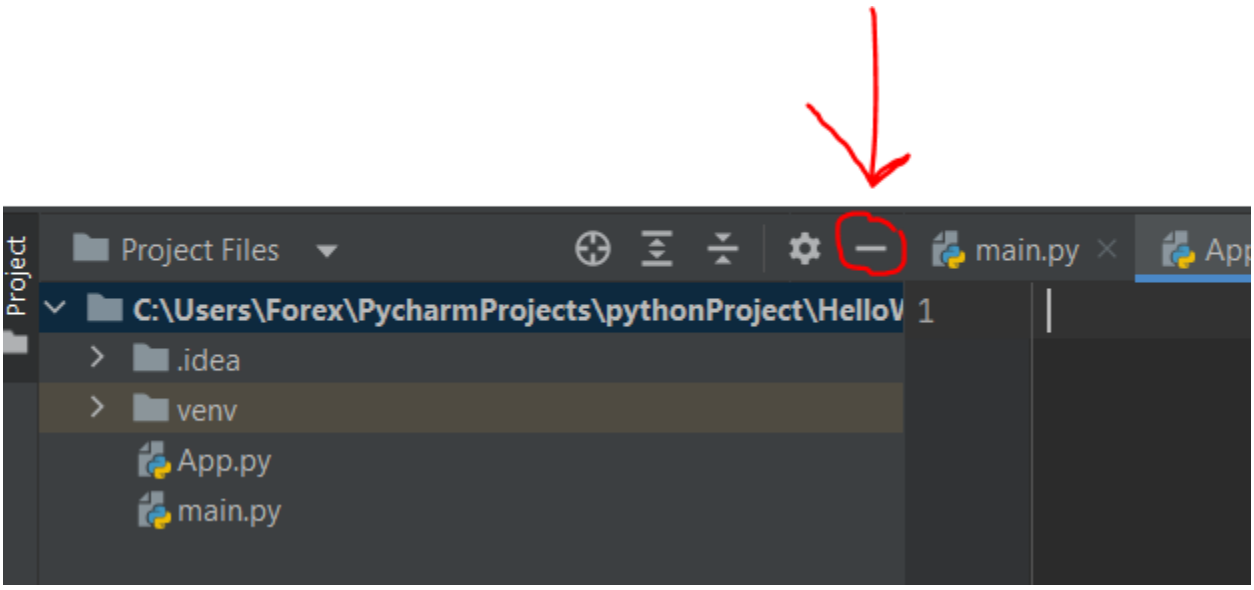
Add the name of the file and ENTER



A new file should be created



To increase the space for your file click on this icon



Our First Code in Python

Let start by writing a string

A string is a sequence of characters

Whenever we are dealing with text or data in python, we should always surround such information with quotes.

In python we can use either double or single quotation marks.

‘mynameiskim’ or “mynameiskim”

Print is a function built in python and we can use it to print our messages on the application windows

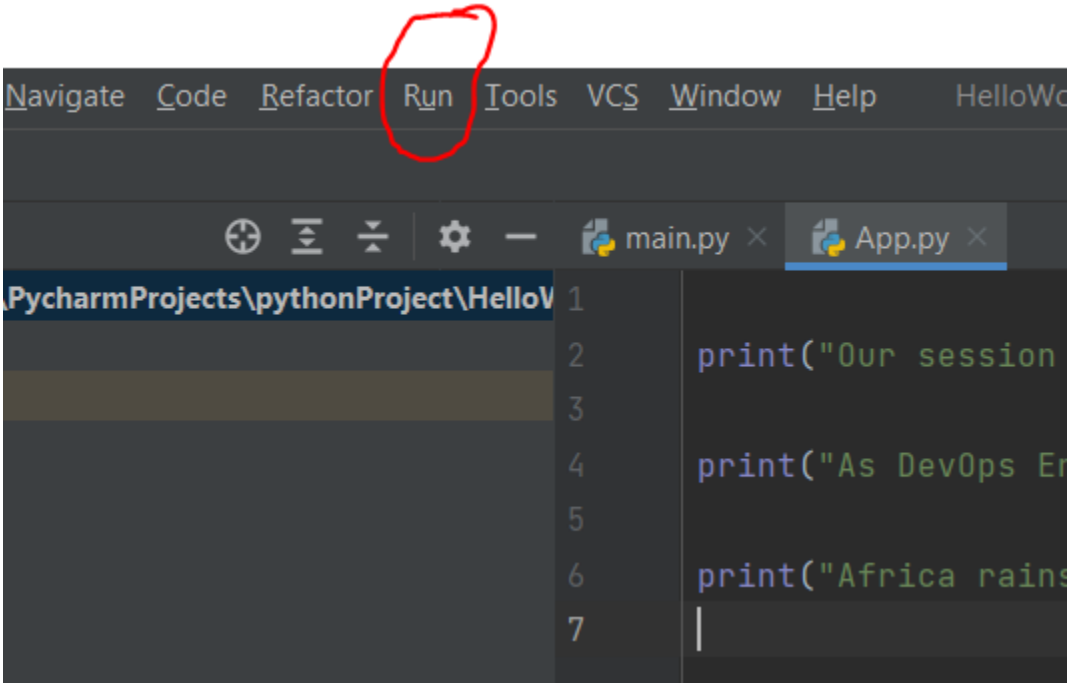
Let create a project using the inbuilt python function called PRINT

```
print("Our session today starts at 10:00 am")

print("As DevOps Engineers, we are also happy to be called Site Reliability Engineers")

print("Africa rains a lot. Be advised to bring an Umbrella everyday at work")
```

Let us run this code

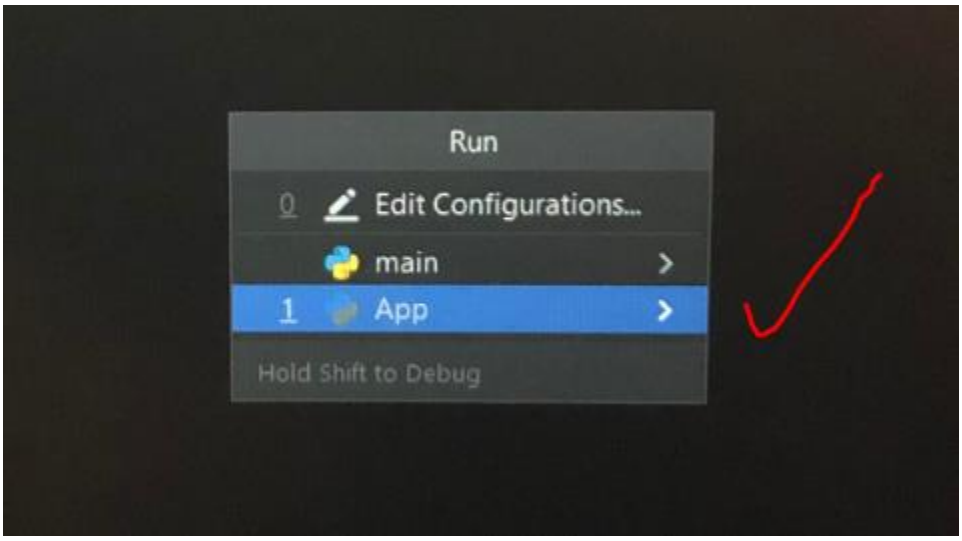
Step 1

Go to the top of the editor and select RUN



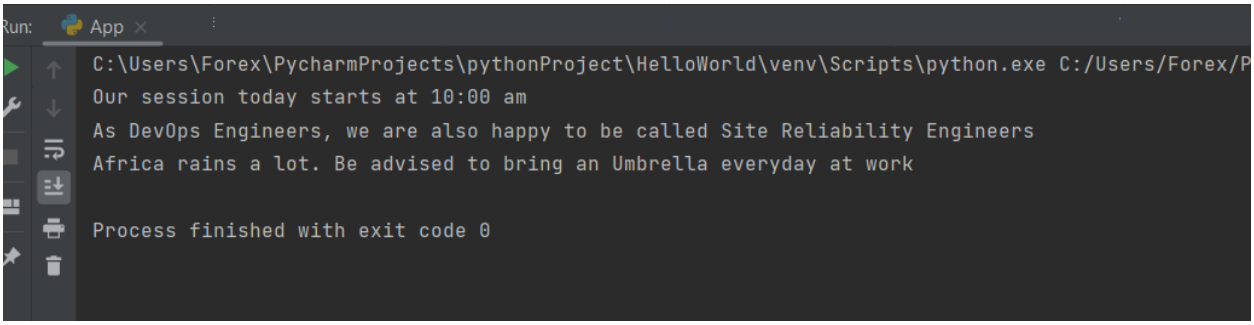
Step 2

Select run the file to run



Step 3

The code should RUN, and results should be displayed in a new window terminal that opens just below the terminal. This is the output displayed from running our written lines of codes.



As we continue, you are going to learn how to automate tasks like creating IAM users on AWS, Running unit and integration tests and other projects in DevOps. For now, let build a foundation, before jumping to those complex projects.

Variables are data that varies. They are used to store data temporarily in the computer/server.

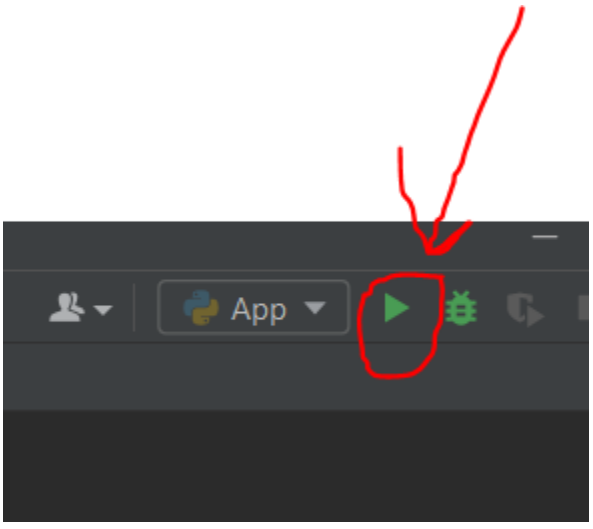
Variables can be information such as price of a product, name of an employee, the email address of an employee etc

How do we declare variables in python?

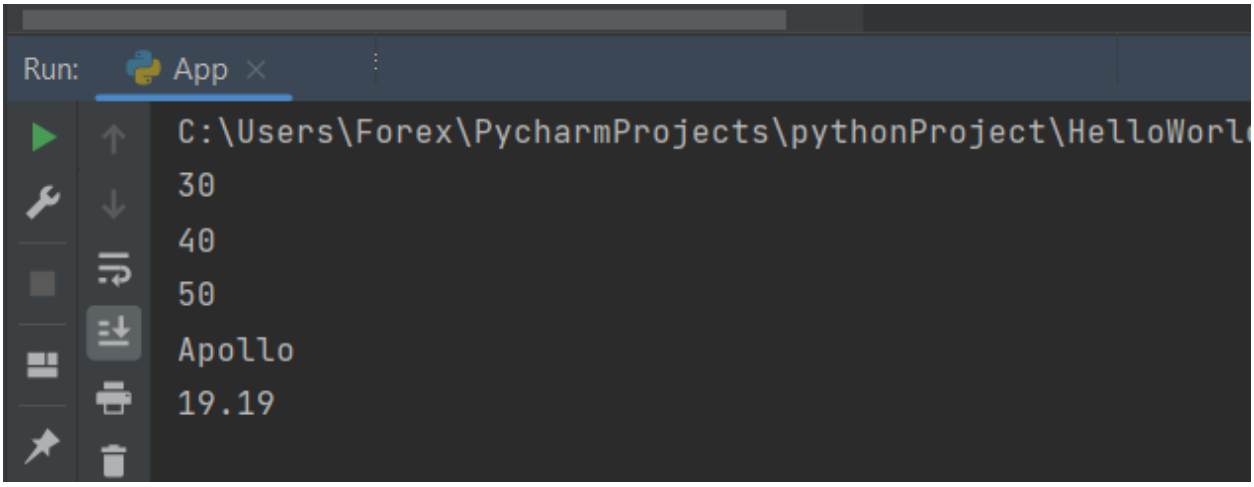
main.py App.py

```
1
2   age = 30
3   age_2 = 40
4   age_3 = 50
5   price = 19.19000
6
7   print(age)
8
9   print(age_2)
10
11  print(age_3)
12
13  print('Apollo')
14
15  print(price)
16
```

Write and run the following codes



Check the output



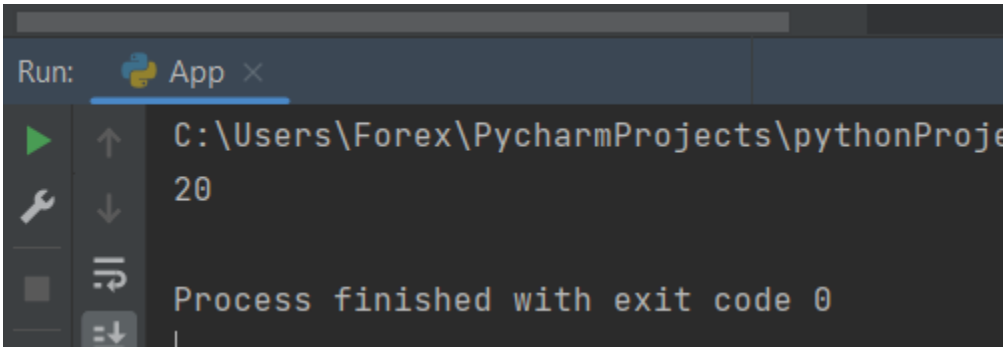
Python is very dynamic. It also allows us to use decimal points. Only displays up to 2 decimal places.

Let see another functionality

```
age = 30
age = 40
age = 50
age = 100
age = 20


print(age)
```

Write the following variables and run the code

Output



Only 20 was displayed. This means that our program was executed from top to bottom, and whichever was at the bottom get displayed.

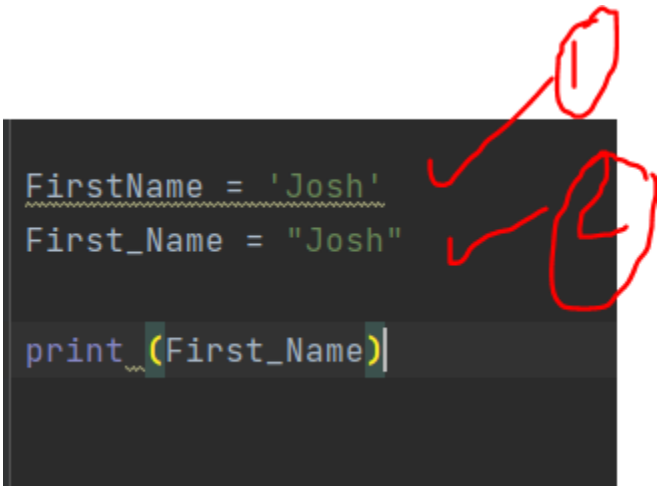
What if I want to display all the variables in my program, what should I do?

Making your variables in your code more readable

Code

FirstName = ‘Josh’

First_Name= ‘Josh’



Which is easier to read?

Off course the variable name with hyphen is much easier to read.

Boolean in Python

The python data type **bool** is used to store two values i.e True and False.

Bool is used to test whether the result of an expression is true or false.

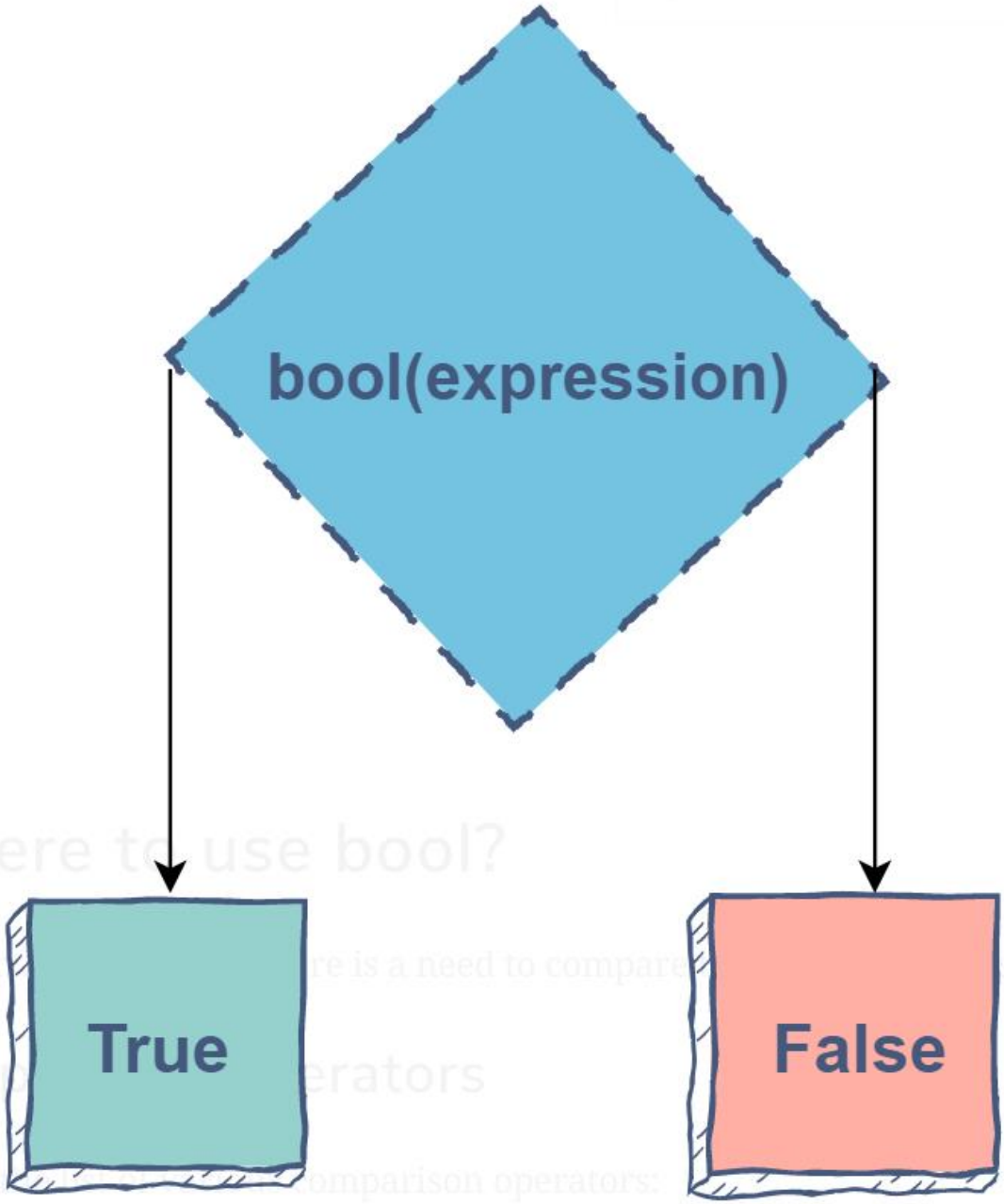
Syntax

To check the boolean value of an expression or a variable, pass it as a parameter to the bool function:

```
print(bool(expression))
```

or

```
print(expression)
```



Where to use bool?

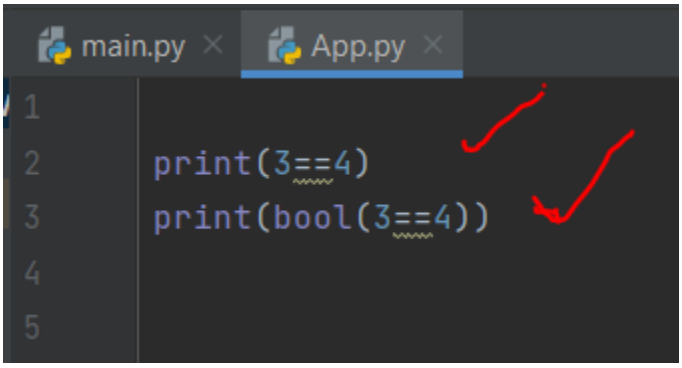
Bool can be used when there is a need to compare two or more values.

Comparison Operators

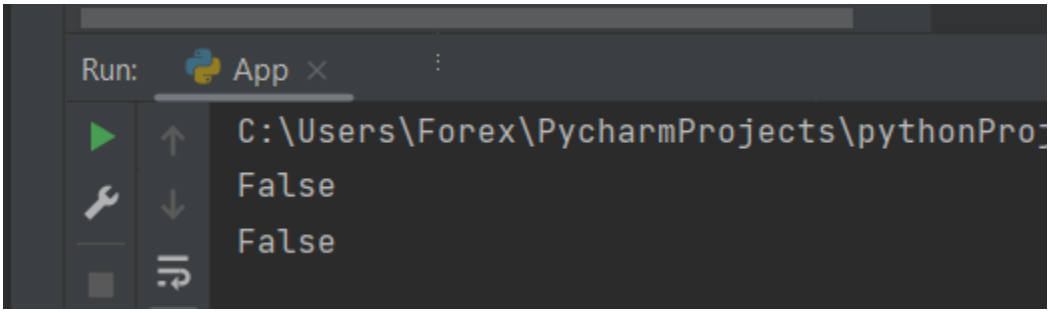
Here is the list of various comparison operators:

```
# x == y   # x is equal to y
# x != y   # x is not equal to y
# x > y    # x is greater than y
# x < y    # x is less than y
# x >= y   # x is greater than or equal to y
# x <= y   # x is less than or equal to y
```

Examples



Output



More Examples you can try during your personal study time.

```
#check if x and y are not equal
print(3!=4)
print(bool(3!=4))
```

```python
#check if x is greater than y
print(3>4)
print(bool(3>4))

#check if x is less than y
print(3<4)
print(bool(3<4))

#check if x is greater than or equal to y
print(3>=4)
print(bool(3>=4))

#check if x is less than equal to y
print(3<=4)
print(bool(3<=4))
```

Outputs

```
C:\Users\Forex\PycharmProjects\pythonProject\HelloWorld\venv\Scripts\
True
True
False
False
True
True
False
False
True
True

Process finished with exit code 0
```

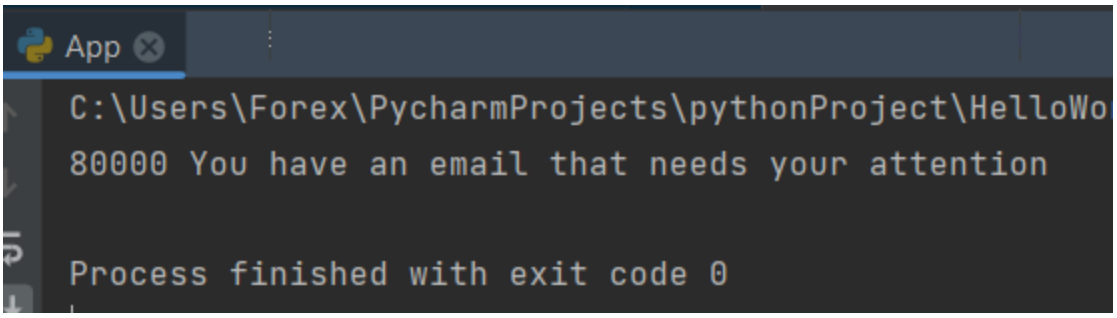
Simple application of bool

Write a code that will check if the DevOps salary amount sent by the Indian recruiters to your email should be Ignored or Given attention. You are only interested in a DevOps position willing to pay you $ 80,000 and above as the starting salary. The program should print **the salary amount and a message, "Ignore the Email,"** if an Indian recruiter sends a DevOps position with a salary amount of less than $ 80,000. At the same time, the program should print **the salary amount and a message "You have a New Email that Needs Your Attention."** if the salary is $ 80,000 and above. Write a python program to run this simple program on an application

Solution

```
x = 80000

x < 80000

if(bool(x<80000)):

  print(x,"Ignore the email")

else:
   print(x,"You have an email that needs your attention")
```

Output



Another built in function called Receiving Input

It is used to receive input from the user through the terminal window

For example

Code

```
input("what is your first name")

input("what is your last name")

input("what is your country of birth")

input("what is your SSN")

input("which year dod you start working as a DevOps engineer")
```

Program Output

```
C:\Users\Forex\PycharmProjects\pythonProject\HelloWorld\venv\S
what is your first name josh
what is your last name wahome
what is your country of birth may 21 2022
what is your SSN 345 765 8967
which year dod you start working as a DevOps engineer 2019

Process finished with exit code 0
```