

PYTHON

Python is an easy to learn, powerful programming language. It has efficient high-level data structures and a simple but effective approach to object-oriented programming. Python's elegant syntax and dynamic typing, together with its interpreted nature, make it an ideal language for scripting and rapid application development in many areas on most platforms.

The Python interpreter and the extensive standard library are freely available in source or binary form for all major platforms from the Python Web site, <https://www.python.org/>, and may be freely distributed. The same site also contains distributions of and pointers to many free third party Python modules, programs and tools, and additional documentation.

Developer of Python

- ▶ Python is Developed By [Guido van Rossum](#) in Python company.

Features of Python:

- ▶ It is easy to learn .
- ▶ It supports multiple [programming paradigms](#), including [structured](#) (particularly, [procedural](#)), [object-oriented](#) and [functional programming](#).
- ▶ Python is Developed from C language

2.1 Invoking the Interpreter

The Python interpreter is usually installed as `/usr/local/bin/python3.7` on those machines where it is available; putting `/usr/local/bin` in your Unix shell's search path makes it possible to start it by typing the command: `python3.7` to the shell.¹ Since the choice of the directory where the interpreter lives is an installation option, other places are possible; check with your local Python guru or system administrator. (E.g., `/usr/local/python` is a popular alternative location.) On Windows machines, the Python installation is usually placed in `C:\Program Files\Python37\`, though you can change this when you're running the installer. To add this directory to your path, you can type the following command into the command prompt in a DOS box: `set path=%path%;C:\Program Files\Python37\`

Some important thing in python :

- i. `#` This symbol is used to denote the line should not be read by python during execution
- ii. `{ }` This is used to store a set and it become a set
- iii. `()` If this symbol is used , Then The data inside it becomes tuple.

Some Python Question with solutions:

- i. Write a program to calculate the sum of two number in python

```
: a= 2          ##We have Assigned that value(2) because the question have not gave value of two numbers
b=2
sum=a+b        #We have calculated the sum of that two numbers
print(sum)     #We have printed the sum
```
- ii. Write a program to take input of two number from user and calculate its sum and multiplication and print it.

```
: a=int(input("Enter first Number for calculation")) #We have take input of number from user
b=int(input("Enter second number for calculation")) #We have taken input of second number from user
sum = a+b      # We have calculated the sum of two numbers
mul = a*b      #We have multiplied that two numbers
print("Sum of {a} and {b} is : " + sum)              #We have printed that result
print("Multiply of {a} and {b} is : " + mul)          #We have printed that result
```

note: int is used to take input in number otherwise it will gave error.

if you want to take input in letters you can use str

Note: If we use {a} in this type which is used below, This defines the number taken input above.

- iii. Write a program to use range and print number one-five .

```
: a=1
  for i in range(5):
      print(a)
      a=a+1
```

- iv. Write a program to print you name five time.

```
: myname="Bishal Regmi" #We have determined our name
  for i in range(5):     # We have define ranage up to 5 time
      print(myname)      ## We have printed my name . This will be printed until range finish
```

- v. Write a program to use sets and print it.

```
: sets={"100","200","300","400"} # If we use { } to store some data it will become a set
  print (sets)                   # This will print all data in sets.
```

- vi. Write a program to use tuple and print all in it.

```
: tup=("100", ",","200","300","400") # If we use ( ) to store some data it become a tuple.
  print(tup)                          #We have printed all in that tuple
```

- vii. Write a program to use tuple and print its first value.

```
: tup=("100", ",","200","300","400") # If we use ( ) to store some data it become a tuple.
  print(tup[1])                      #We have printed all in that tuple. It will print first number in it
```

#note : If we use [1] it will print first value in set else you write other like 1,2,3 that will count in that tuple and print it

- viii. Write a program to take input from user and print the greatest number.

```
: a=int(input("Enter first number")) #We have taken input
  b=int(input("Enter second number")) # We have taken input
  if a>b :                          #We have checked if a is greater than b or not
  print("{a} is greatest than {b}") #if a is greater this statement runs
  else :
  print("{b} is greatest than {a}") #if b is greater this statement runs
```

- ix. Write a program to take input of three number and print the smallest number.

```
: a=int(input("Enter first number")) #We have taken input
  b=int(input("Enter second number")) #We have taken input
  c=int(input("Enter third number")) #We have taken input
  if a>b and a>c :                  #We have checked if a is greater than b or not
  print("A is Greatest Number between {b} and {c}")
```

```
elif b>c and b>a :                  #We have checked if a is greater than b or not
  print("B is Greatest Number between {a} and {c}")
```

else :

print("C is Greatest Number between {a} and {b}) # IF neither of above statement is true then this statement executes

- x. Write a program to create a .txt file in a directory and write something in it.

```
: import os
Path = "./"
with open(Path+"subscribe.txt","a") as file:
    fi = file.write("Please Like And Subscribe")
```

- xi. Write a program to create a file with any extension and write something in it.

```
: import os

Path = "./"

with open(Path+"subscribe.txt","a") as file:

    fi = file.write("Please Like And Subscribe")
```

- xii. Write a program to open a .txt file in readonly mode read a text in .txt file and print it.

```
:import os
path = "./"
with open(path+"subscribe.txt","r") as file:
    fi = file.read()
    print (fi)
```

- xiii. Write down the different modes of reading a file in python .

1. Read(r) : it open a file in readonly form
2. Write(w) : it opens a file in write form. If it is used The file will be overwritten
3. Append(a) : It creates a file if it doesnot exist or if it exist , I will write in it but Donot overwrite . The old text in that file will exist.
4. W+ : It opens a file as a read and write.

- xiv. Write a program using all in one. ((Make a login system (username should be like and password should be subscribe))

```
import os #We have imported os module This is not so necessary in this program
users = {'bishal':'12345','hari':'12345'} #This is the username and password of users list
username = str(input("Enter username")) #Taken username from user
password = int(input("Enter Password")) #Taken password from user
```

```
if (users[username] == Pass): ##Checked if username and pass is correct or not
    print("You Have Entered Correct Username and password") #Printed result
    print("{username} is an authenticated user and your password is {password}")
else: #If above statement becomes false This statement executes
    print("Username or Password is Incorrect") #Printed result
    print("Either username : {username} is incorrect or password : {password} is incorrect")
```

