```
a=input("Your name")
print("Hello"+" " + a)
print(type(a))
b=int(input("Enter your age"))
print(b+5)
print(float(b))
```

```
Your name Piyush
```

```
Hello Piyush
<class 'str'>
```

```
Enter your age 16
```

```
21
16.0
```

```
print(a.upper())
```

```
PIYUSH
```

```
print(a.lower())
```

```
piyush
```

```
print(a.find('s'))
print(a.find('a')) #if not found returns -1
print(a.replace("Piyush","Pushkar"))
```

```
4
-1
Pushkar
```

```
print("P"in a) #is P a part of name
print("X" in a )
```

```
True
False
```

```
print(10+2)
print(10*2)
print(10/2)
print(10%2)
print(10//2) ## Return Quotient without float value
print(10**2) ## 10 raised to power 2
```

```
12
20
5.0
0
5
100
```

```
#operator precedence
print(5+2*2)
print(5+2/2) # Divison and multiplication got a higher precedence than
+ and -
```

```
9
6.0
```

```
#Comments
#--->Single line commment
```

```
#Comparison Operator
print(3<2)
print(3>2)
print(3>=1)
print(3!=2)
```

```
False
True
True
True
```

```
#Logical Operator --->and, or , not
print(3>2 and 3<1) # If both are true then only it will return true
print(3>2 or 3<1) # If any one is true it will return true
print(not 3<2) # True--->False and False--->True
```

```
False
True
True
```

```
#if ,elif,else
if(3<2):
    print(3+2)
elif(3==2):
    print(3-2)
else:
    print(3+10)
```

```
13
```

```
#building a calculator
a=int(input("Enter the first number"))
b=int(input("Enter the second number"))
c=input("Enter the operator i.e +,-,/,%,*")
if c=="+" :
    print(a+b)
elif c=="-" :
    print(a-b)
elif c=="/":
    print(a/b)
```

```
elif c=="*":
    print(a*b)
elif c=="%":
    print(a%b)
else :
    print("Invalid Operator")


Enter the first number 10
Enter the second number 2
Enter the operator i.e +,-,/,%,* %

0

#range function in python
#range(5)--->0,1,2,3,4 (5 is not included)
print(range(5))

range(0, 5)

#loops in python

# for loop
for i in range(5): # i will go from 0 to 4
    print(i)


0
1
2
3
4

#while loop
i=1
while i<=5:
    print(i)
    i+=1

1
2
3
4
5

#pattern printing
i=1
while i<=5:
    print("*" *i)
    i+=1
```

```
*
**
***
****
*****
```

```
#Lists
#prints elements in lists
item=[1,2,3,4,5]
for i in item:
    print(i)
```

```
1
2
3
4
5
```

```
#print Lists in simple manner
marks=[22,23,45]
print(marks)
print(marks[0])
print(marks[-1]) #indexing from backwards i.e negative indexing
print(marks[0:2]) #index slicing prints from 0 to 1 index(not 2)
print(marks[0:]) #prints from 0 to last index
```

```
[22, 23, 45]
22
45
[22, 23]
[22, 23, 45]
```

```
# adding in lists
marks=[28,29,30]
marks.append(32) #adding in last
print(marks)
marks.insert(0,33) # adding in the beginining
print(marks)
#printing using loops

for i in marks :
    print(i)
    i+=1
#or
i=0
while(i<len(marks)):
    print(marks[i])
    i+=1
```

```
[28, 29, 30, 32]
[33, 28, 29, 30, 32]
```

```
33
28
29
30
32
33
28
29
30
32
```

```
#break and continue
students=["Piyush","Vishwas","Praveer","Kishan","Radha"]
for i in students:
    if i== "Praveer":
        break;
    print(i)

#using continue
for i in students:
    if i=="Kishan" :
        continue;
    print(i)
```

```
Piyush
Vishwas
Piyush
Vishwas
Praveer
Radha
```

```
#Tuple --->same as lists but cannot be modified
marks=(95,96,99,96,95,95)
print(marks)
print(type(marks))
print(marks.count(95))
print(marks.index(96))
```

```
(95, 96, 99, 96, 95, 95)
<class 'tuple'>
3
1
```

```
#Sets---->Avoids Repetion(also unordered)
marks={99,99,98,100}
print(marks)
#print(marks[0])--->invalid because items in the sets cannot be
accessed using indexes
#for priting sets use loops
```

```
{98, 99, 100}
```

```
#lists-->[],tuple--->(),sets---->{}

#Dictionary --->keys:value

marks = {"english" :95,"chemistry":98}
print(marks)
print(marks["english"])
marks["physics"]=99
print(marks)
marks["physics"]=100
print(marks)
```

```
{'english': 95, 'chemistry': 98}
95
{'english': 95, 'chemistry': 98, 'physics': 99}
{'english': 95, 'chemistry': 98, 'physics': 100}
```

```
#functions in python
import math
print(dir(math))
from math import sqrt
print(sqrt(16))
```

```
['__doc__', '__loader__', '__name__', '__package__', '__spec__',
'acos', 'acosh', 'asin', 'asinh', 'atan', 'atan2', 'atanh', 'cbrt',
'ceil', 'comb', 'copysign', 'cos', 'cosh', 'degrees', 'dist', 'e',
'erf', 'erfc', 'exp', 'exp2', 'expm1', 'fabs', 'factorial', 'floor',
'fmod', 'frexp', 'fsum', 'gamma', 'gcd', 'hypot', 'inf', 'isclose',
'isfinite', 'isinf', 'isnan', 'isqrt', 'lcm', 'ldexp', 'lgamma',
'log', 'log10', 'log1p', 'log2', 'modf', 'nan', 'nextafter', 'perm',
'pi', 'pow', 'prod', 'radians', 'remainder', 'sin', 'sinh', 'sqrt',
'sumprod', 'tan', 'tanh', 'tau', 'trunc', 'ulp']
4.0
```

```
#function--->syntax
# def function_name(parameters):
 #   //do something

#print sums using function
def SumofTwoNumbers(first,second):
    print(first+second)
SumofTwoNumbers(3,5)
def SumofTwoNumbers(first,second=4): #Takes default value of second is
4 if parameter secondf i
    print(first+second)
SumofTwoNumbers(3)
```

```
8
7
```

```
str="How are you"
print(str[:-1])
print(str.replace("are","arre"))
print("Lenght of your string is:", len(str))
print(str.count("o"))
```

```
How are yo
How arre you
Lenght of your string is: 11
2
```

```
list=["apple","carrot","banana"]
list.sort()
print(list)
list.sort(reverse=True)
print(list)
list.pop(2)
print(list)
list2=list.copy()
print(list2)
tup=tuple(list2)
set_1=set(list2)
print(set_1)
print(tup)
```

```
['apple', 'banana', 'carrot']
['carrot', 'banana', 'apple']
['carrot', 'banana']
['carrot', 'banana']
{'banana', 'carrot'}
('carrot', 'banana')
```