python programs¶

In [1]:

```
#Write a python program to print welcome message;

print("Welcome Hello  World")
```

```
Welcome Hello  World
```

Data Type¶

In [10]:

```
#Numeric

#Integer

a=10;

print(a)

#Float

b=10.1

print(b)
```

```
10
10.1
```

In [7]:

```
#WAP to demostrate use of sequence data type ?

l=[10,20,30,40,50,60,70,80,90]

print("List:-",l)

l=(10,20,30,40,50,60,70,80,90)

print("Tuple",l)

for i in range(10):

    print(i,end=",")
```

```
List:- [10, 20, 30, 40, 50, 60, 70, 80, 90]
Tuple (10, 20, 30, 40, 50, 60, 70, 80, 90)
```

```
0,1,2,3,4,5,6,7,8,9,
```

In [13]:

```
#WAP to demostrate use of  string data type ?
```

```
c="Goverment Polytechnic miraj"
```

```
print(c)
```

```
v="GPM student"
```

```
print(v)
```

```
Goverment Polytechnic miraj
GPM student
```

In [14]:

```
#WAP to demostrate use of  mappling Data type in python ?
```

```
d={1:"raj",2:"ram",3:"shubham"}
```

```
print(d);
```

```
{1: 'raj', 2: 'ram', 3: 'shubham'}
```

Operator:¶

In [16]:

```
#write a program to demostrate use Airthmatic operator
```

```
a=10;
```

```
b=20;
```

```
print("addtion:-",(a+b));
```

```
print("substraction:-",(a-b));
```

```
print("multipliaction:-",(a*b));
```

```
print("Division:-",(a/b));
```

```
addtion:- 30
substraction:- -10
multipliaction:- 200
Division:- 0.5
```

In [2]:

```
#write a program to calculate sqaure by accept number form user ?
```

```
a=int(input("Enter number"))
```

```
print(a**2)
```

```
Enter number2
4
```

In [26]:

```
#write a program to demostrate use logoical operator
```

```
a=10;
```

```
b=20;
```

```
c=30;
```

```
print(a>b and a>c)
```

```
print(a<b or a<c)
```

```
b=False;
```

```
print(not b)
```

```
False
True
True
```

In [27]:

```
#write a program to demostrate us relational operator
```

```
a=10
```

```
b=20;
```

```
print(a==b)
```

```
print(a!=b)
```

```
print(a<=b)
```

```
print(b>=a)
```

```
False
True
True
True
```

In [33]:

```
#write a program to demostrate use Bitwise operator
```

```
a=10;
```

```
b=10;

print(a & b)

print(a | b)

print("Lefft shift",a<<2)



print("Right shift",a>>2)

```

```
10
10
Lefft shift 40
Right shift 2
```

In [39]:

```
#write a program to demostrate use Assignment operator

a=10;

b=20;

a+=b;

print("Addtion:-",a)

a-=b;

print("Substraction:-",a)

a*=b;

print("Multiplication:-",a)

a/=b;

print("Division:-",a)


```

```
Addtion:- 30
Substraction:- 10
Multiplication:- 200
Division:- 10.0
```

In [45]:

```
#write a program to demostrate use Membership operator
```

```
a=[10,20,30,40,50]
```

```
print(10 in a)
```

```
print(70 not in a)
```

```
True
True
```

In [50]:

```
#write a program to demostrate use Identity operator
```

```
a=10;
```

```
b=10;
```

```
print(a is b)
```

```

```

```
print(a is not b)
```

```
True
False
```

In [51]:

```
#write a program to demostrate use Identity operator
```

```
a=10;
```

```
b=10;
```

```
print(a is b)
```

```
print(a is not b)
```

```
True
False
```

In [53]:

```
#write a program to demostrate use Relational operator
```

```
n=int(input("Enter number"))
```

```
if(n%2==0):
```

```
    print("Even number")
```

```
else:
```

```
    print("Odd number")
```

```
Enter number12
Even number
```

In [1]:

```
#write a program accept year to user and display leap year or not
n=int(input("Enter year"))
if(n%4==0):
    print("Leap year")
else:
    print("not leap year")
```

```
Enter year2020
Leap year
```

Control statement¶

In [5]:

```
#write a program to demostrate use of if?
a=10;
if(a==10):
    print("Hi")
```

```
Hi
```

In [8]:

```
#write a program to demostrate use of if?
a=10;
if(a>2):
    print("Hi GPM")

```

```
Hi GPM
```

In [3]:

```
#write a program accept year to user and display leap year or not
```

```
n=int(input("Enter year"))
if(n%4==0):
    print("Leap year")
else:
    print("not leap year")
```

```
Enter year2020
Leap year
```

In [4]:

```
# write a program of even or odd
n=int(input("Enter number"))
if(n%2==0):
    print("Even number")
else:
    print("Odd number")
```

```
Enter number12
Even number
```

In [10]:

```
# write a program to display greater between two number?
a=10
b=20
if(a>b):
    print("a is greather")
else:
    print("b is greather")
```

```
b is greather
```

In [11]:

```
# write a program to display equal between two number?
a=10
```

```
b=20
if(a==b):
    print("a and b are equal ")
else:
    print("a and b is not equal")
```

```
a and b is not equal
```

In [13]:

```
a=input("Enter username:\t")
b=input("Enter password:\t")
if(a=="shubham" and b=="123"):
    print("Login succesfully")
else:
    print("not login succesfully")
```

```
Enter username:  shubham
Enter password:  1234
not login succesfully
```

In [14]:

```
# write a program to demostrate use of nested if else ?
a=10;
b=20;
c=10;
if(a>b):
    if(a>c):
        print("a is grether")
    else:
        print("c is grether")
else:
    print("b is grether")
```

```
b is grether
```

In [15]:

```
# write a program to demostrate use of nested if else ?

a=10;

b=10;

c=20;

if(a==b):

    if(b>c):

        print("b is grether")

    else:

        print("c is grether")
```

```
c is grether
```

In [18]:

```
# write a program to demostrate use of nested if else ?

a=10;

b=40;

c=20;

if(a!=b):

    if(b>c):

        print("b is grether")

    else:

        print("c is grether")
```

```
b is grether
```

In [19]:

```
# write a program to demostrate use of nested if else ?

a=10;

b=10;

c=20;
```

```
if(a==b):
    if(a%2==0):
        print("Even number")
    else:
        print("odd number")
```

```
Even number
```

In [21]:

```
# write a program to demostrate use of nested if else ?
a=int(input("Enter Year"))
b=10;
c=10;
if(c==b):
    if(a%4==0):
        print("Leap year")
    else:
        print("not leap year")
```

```
Enter Year2020
Leap year
```

LOPPING STATEMENT¶

In [4]:

```
# write a program to print 1 to 10 number using while loop?
i=1;
while(i<=10):
    print(i,end=",")
    i=i+1;
```

```
1,2,3,4,5,6,7,8,9,10,
```

In [3]:

```
# write a program to print even number between 1 to 100  using while loop?

i=1;

while(i<=100):

     if(i%2==0):

             print(i,end=",")

     i=i+1;


```

```
2,4,6,8,10,12,14,16,18,20,22,24,26,28,30,32,34,36,38,40,42,44,46,48,50,52,54,56,58,60,
62,64,66,68,70,72,74,76,78,80,82,84,86,88,90,92,94,96,98,100,
```

In [5]:

```
# write a program to print odd number between 1 to 100  using while loop?

i=1;

while(i<=100):

     if(i%2==0):

             pass;

     else:

          print(i,end=",")

     i=i+1;


```

```
1,3,5,7,9,11,13,15,17,19,21,23,25,27,29,31,33,35,37,39,41,43,45,47,49,51,53,55,57,59,6
1,63,65,67,69,71,73,75,77,79,81,83,85,87,89,91,93,95,97,99,
```

In [7]:

```
# write a program to display reverse number ?

rev=0;

n=int(input("Enter number"))

while(n>0):

    dig=n%10;

    rev=rev*10+dig;
```

```
    n//=10;
print(rev)
```

```
Enter number321
123
```

In [9]:

```
# write a program to display palindrome number ?
rev=0;
n=int(input("Enter number"))
temp=n;
while(n>0):
    dig=n%10;
    rev=rev*10+dig;
    n//=10;
if(temp==rev):
    print("palindrome")
else:
    print("not palindrome number")
```

```
Enter number121
palindrome
```

In [1]:

```
# write a program to display Armstrong number ?
arm=0;
n=int(input("Enter number"))
temp=n;
while(n>0):
    dig=n%10;
    arm=arm+dig*dig*dig;
    n//=10;
```

```
if(temp==arm):
    print("Armstrong number")
else:
    print("not Armstrong number")
```

```
Enter number153
Armstrong number
```

In [29]:

```
#write a program to sum of digit number ?
n=int(input("enter number"))
su=0;
while(n>0):
    dig=n%10;
    su=su+dig;
    n//=10;
print("Sum of digit:-",su)
```

```
enter number1234
Sum of digit:- 10
```

In [32]:

```
#write a program to print factorial number ?
n=int(input("Enter number:-"))
f=1
while(n>0):
    f=f*n;
    n=n-1;
print("Factorial:-",f)
```

```
Enter number:-5
Factorial:- 120
```

In [3]:

```
 #write a program demostate use of while loop ?
```

```
i=0;
while(i<10):
    if(i%2==0):
        print("Even:-",i,end=",")
    i=i+1;
```

```
Even:- 0,Even:- 2,Even:- 4,Even:- 6,Even:- 8,
```

In [1]:

```
 #write a program demostate use of while loop ?
i=0;
while(i<10):
    if(i%2==0):
        pass
    else:
        print("odd:-",i,end=",")
    i=i+1;
```

```
Even:- 1,Even:- 3,Even:- 5,Even:- 7,Even:- 9,
```

In [7]:

```
 #write a program demostate use of while loop ?
i=0;
while(i<5):
    j=0;
    while(j<i):
        print("*",end="");
        j=j+1;
    i=i+1;
    print()
```

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

In [36]:

```
#write a program to print fibonices series ?

p=0;

p1=1;

print(p,p1,end=",");

for i in range(15):

    n=p+p1;

    print(n,end=",");

    p,p1=p1,n
```

```
0 1,1,2,3,5,8,13,21,34,55,89,144,233,377,610,987,
```

In [3]:

```
#write a program to display even  number 1 to 200 using for loop?

for i in range(1,201):

    if(i%2==0):

        print(i,end=",")
```

```
2,4,6,8,10,12,14,16,18,20,22,24,26,28,30,32,34,36,38,40,42,44,46,48,50,52,54,56,58,60,
62,64,66,68,70,72,74,76,78,80,82,84,86,88,90,92,94,96,98,100,102,104,106,108,110,112,1
14,116,118,120,122,124,126,128,130,132,134,136,138,140,142,144,146,148,150,152,154,156
,158,160,162,164,166,168,170,172,174,176,178,180,182,184,186,188,190,192,194,196,198,2
00,
```

In [4]:

```
#write a program to display even  number 1 to 100 using for loop?

for i in range(1,100):

    if(i%2==0):

        print(i,end=",")
```

```
2,4,6,8,10,12,14,16,18,20,22,24,26,28,30,32,34,36,38,40,42,44,46,48,50,52,54,56,58,60,
62,64,66,68,70,72,74,76,78,80,82,84,86,88,90,92,94,96,98,
```

In [20]:

```
#wwrite a program to to print Alaphabet
for i in range(65,91):
    print(chr(i),end=" ")
```

```
A B C D E F G H I J K L M N O P Q R S T U V W X Y Z
```

In [23]:

```
 #wwrite a program to to print Alaphabet
for i in range(97,123):
    print(chr(i),end=" ")
```

```
a b c d e f g h i j k l m n o p q r s t u v w x y z
```

In [25]:

```
# write a program to print AscII value
a=["a","b","c","d","e","f","g"];
for i in a:
    print(i,":-",ord(i),end=",")
```

```
a :- 97,b :- 98,c :- 99,d :- 100,e :- 101,f :- 102,g :- 103,
```

In [27]:

```
# write a program to print AscII value
a=["A","B","c","D"];
for i in a:
    print(i,":-",ord(i),end=",")
```

```
A :- 65,B :- 66,c :- 99,D :- 68,
```

In [21]:

```
#write a program demostrate use of for loop ?
a=[10,20,3,40,50];
for i in a:
    if(i%2==0):
        print("Even:-",i,end=",")
```

```
    else:
        print("odd:-",i,end=",")
```

```
Even:- 10,Even:- 20,odd:- 3,Even:- 40,Even:- 50,
```

In [8]:

```
#write a program demostrate use of for loop ?
a=["s","h","u","40",50];
for i in a:
    print(i,end=",")
```

```
s,h,u,40,50,
```

In [9]:

```
#write a program demostrate use of for loop ?
a=["s","h","i","v","t","e","j"];
for i in a:
    print(i,end=",")
```

```
s,h,i,v,t,e,j,
```

In [14]:

```
#write a program demostrate use of nested for loop ?
for i in range(1,5):
    for j in range(1,5):
        print("*",end="")
    print()
```

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

In [15]:

```
#write a program demostrate use of nested for loop ?
for i in range(1,5):
    for j in range(i):
```

```
        print("*",end="")
    print()
```

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

In [16]:

```
#write a program demostrate use of nested for loop ?
for i in range(1,5):
    for j in range(i):
        print(i,end="")
    print()
```

```
1
22
333
4444
```

In [17]:

```
#write a program demostrate use of nested for loop ?
for i in range(1,5):
    for j in range(i):
        print(j,end="")
    print()
```

```
0
01
012
0123
```

In [18]:

```
#write a program demostrate use of nested for loop ?
for i in range(1,5):
    for j in range(i):
        print(i+j,end="")
    print()
```

```
1
```

```
23
345
4567
```

In [30]:

```
#write a program demostrate use of nested for loop ?

a=[65,66,78,85,54];

for i in range(5):

    for j in range(i):

        pass



    print(chr(a[i]),end=",")
```

```
A,B,N,U,6,
```

In [45]:

```
#write a program demostrate use of nested for loop ?

for i in range(5):

    for j in range(i):

        print(chr(ord("A")+i),end="");

    print()
```

```
B
CC
DDD
EEEE
cc
```

In [33]:

```
#write a program demostrate use of nested for loop ?

for i in range(5):

    for j in range(i):

        print(chr(ord("A")+j),end="");

    print()
```

```
A
AB
ABC
```

```
ABCD
```

In [35]:

```
#write a program demostrate use of nested for loop ?

for i in range(5):

    for j in range(i):

        print("A"*j,end="");

    print()
```

```
A
AAA
AAAAAA
```

In [37]:

```
#write a program demostrate use of nested for loop ?

for i in range(5):

    for j in range(i):

        print("AB"*j,end="");

    print()
```

```
AB
ABABAB
ABABABABABAB
```

loop manuplation¶

In [21]:

```
#write a program demostrate use of continue ?

for i in range(1,10):

    if(i==5):

        continue;

    print(i,end=" ")
```

```
1 2 3 4 6 7 8 9
```

In [22]:

```
#write a program demostrate use of continue ?
a=["s","h","u","b","h"]
for i in a:
    if(i=="u"):
        continue;
    print(i,end=" ")
```

```
s h b h
```

In [23]:

```
#write a program demostrate use of continue ?
a=[1,2,3,4,5,6]
for i in a:
    if(i==7):
        continue;
    print(i,end=" ")
```

```
1 2 3 4 5 6
```

In [24]:

```
#write a program demostrate use of pass ?
a=int(input("Enter number"))
if(a==10):
    pass

```

```
Enter number10
```

In [25]:

```
#write a program demostrate use of pass ?
class s:
    def j(self):
```

```
        print("hello")
    def g(self):
        pass # empty block
s1=s();
s1.j();
s1.g()
```

```
hello
```

In [27]:

```
#write a program demostrate use of pass ?
def shu(n):
 print(n)
def s():
 pass # empty block statement
shu(5)
s()
```

```
5
```

In [39]:

```
#write a program demostrate use of break ?
for i in range(10):
    if(i==3):
        break;
    print(i,end=" ")
```

```
0 1 2
```

In [41]:

```
#write a program demostrate use of break ?
a=[1,2,3,4,5,6]
for i in a:
```

```
    if(i==4):
        break;
    print(i,end=" ")
```

```
1 2 3
```

In [43]:

```
#write a program demostrate use of break ?
a=(1,2,3,4,5,6)
for i in a:
    if(i==7):
        break;
    print(i,end=" ")
```

```
1 2 3 4 5 6
```

List¶

In [49]:

```
# Write a program to create list
l1=[10,20,30,40,50,60];
print("List:-",l1)
l=list([10,20,30,50]);
print(l)
l=list("Xyz")
print(l)
```

```
List:- [10, 20, 30, 40, 50, 60]
[10, 20, 30, 50]
['X', 'y', 'z']
```

In [54]:

```
#write a program to accesing list
l1=[10,20,30,40,50,60]
```

```
for i in l1:
    print(i,end=" ")
print("\n",l1[1:3])
```

```
10 20 30 40 50 60
 [20, 30]
```

In [60]:

```
#write a program to update list
l1=[10,20,30,40,50,60]
print(l1)
l1.append(230)
print(l1)
l1.insert(3,90)
print(l1)
```

```
[10, 20, 30, 40, 50, 60]
[10, 20, 30, 40, 50, 60, 230]
[10, 20, 30, 90, 40, 50, 60, 230]
```

In [62]:

```
#write a program to extend list
a=[10,20,30]
b=["d","dd","ddd"]
a.extend(b)
print(a)
```

```
[10, 20, 30, 'd', 'dd', 'ddd']
```

In [63]:

```
#write a program list concatation
a=[10,20,30,40]
print(a+[406])
```

```
[10, 20, 30, 40, 406]
```

In [66]:

```
#write a program of list perform delete operation
a=[10,20,30,40,50,60]
print(b)
a.pop()
print(a)
a.remove(30)
print(a)
```

```
['d', 'dd', 'ddd']
[10, 20, 30, 40, 50]
[10, 20, 40, 50]
```

In [68]:

```
#write a program to create list and sort list
a=[10,20,2,34,55]
a.sort()
print(a)
```

```
[2, 10, 20, 34, 55]
```

In [69]:

```
#write a program to create list and find length of list
a=[10,20,2,34,55]
print(len(a))
```

```
5
```

In [70]:

```
#write a program to create list and find min and max ?
a=[10,20,30,40,50];
print(min(a))
print(max(a))
```

```
10
50
```

In [72]:

```
#write a program to create list and double occurrance ?

a=[10,20,20,40,50,20]

print(a.count(20))
```

```
3
```

Tuple¶

In [74]:

```
# write a program to create simple tuple?

a=(10,20,30,50,60)

print(a)
```

```
(10, 20, 30, 50, 60)
```

In [80]:

```
#write a program to create tuple by using constructor ?

l1=(10,20,20,30,40)

print(l1)

l2=tuple([10,20,340,40]);

print(l2)
```

```
(10, 20, 20, 30, 40)
(10, 20, 340, 40)
```

In [81]:

```
#write a program to accessing value of tuple ?

a=[10,20,30,40,50]

print(a)

print(a[0])

for i in a:

    print(i,end=" ")
```

```
[10, 20, 30, 40, 50]
10
10 20 30 40 50
```

In [82]:

```
#write a program to create Tuple and update value of tuple ?

a=(10,20,30,40,560)

b=(34,3,3,3)

print(a+b)
```

```
(10, 20, 30, 40, 560, 34, 3, 3, 3)
```

In [87]:

```
# write a program to create tuple and delete value of tuple ?

a=(10,20,30,40,60)

print(a)

del a
```

```
(10, 20, 30, 40, 60)
```

In [89]:

```
#write a program to create Tuple and find min and max ?

a=(10,20,2,34,55)

print(min(a))

print(max(a))
```

```
2
55
```

In [90]:

```
#write a program to create Tuple and double occurrance ?

a=(10,20,20,40,50,20)

print(a.count(20))
```

```
3
```

In [91]:

```
#write a program to create Tuple and find length of Tuple ?

a=(10,20,2,34,55)

print(len(a))
```

```
5
```

In [92]:

```
#write a program to create Tuple and display tuple ?

a=(10,20,30,40,60)

print(a)
```

```
(10, 20, 30, 40, 60)
```

In [95]:

```
#write a program to create tuple and find  even number in tuple

a=(10,20,2,34,55)

for i in a:

    if(i%2==0):

        print(i,end=" ")
```

```
10 20 2 34
```

set¶

In [97]:

```
#write a program to create set  ?

a={10,20,40,50,60,70}

print(a)

a=set({2,4,56,6})

print(a)
```

```
{70, 40, 10, 50, 20, 60}
{56, 2, 4, 6}
```

In [99]:

```
#write a  program to create set and Access set element ?

a={10,2,3,5,6,8,9}

print(a)

for i in a:

    print(i,end=" ")
```

```
{2, 3, 5, 6, 8, 9, 10}
2 3 5 6 8 9 10
```

In [104]:

```
#write a  program to create set and update set element ?

a={10,2,3,5,6,8,9}

a.add(40)

print(a)

a.update({60,60,606})

a.update({40})

print(a)
```

```
{2, 3, 5, 6, 8, 9, 10, 40}
{2, 3, 5, 6, 8, 9, 10, 40, 60, 606}
```

In [105]:

```
#write a  program to create set and delete set element ?

a={10,2,3,5,6,8,9}

print(a)

a.pop();

a.remove(3)

print(a)

a.discard(5)

print(a)
```

```
{2, 3, 5, 6, 8, 9, 10}
{5, 6, 8, 9, 10}
{6, 8, 9, 10}
```

In [106]:

```
#write a  program to create set and check even number in set ?

a={10,2,3,5,6,8,9}

for i in a:

    if(i%2==0):

        print("Even",i,end=" ")
```

```
```

```
Even 2 Even 6 Even 8 Even 10
```

Dictionary¶

In [109]:

```
#write a program to create dictionary ?
```

```
a={1:"a",2:"b",3:"c",4:"fd"}
```

```
print(a)
```

```
b=dict({2:"d"})
```

```
print(b)
```

```
{1: 'a', 2: 'b', 3: 'c', 4: 'fd'}
{2: 'd'}
```

In [110]:

```
#write a program to create dictionary and accessing a values of dictionary ?
```

```
a={1:"ff",2:"f",3:"ffsd",4:"sfd"};
```

```
print(a)
```

```
print(a[1])
```

```
{1: 'ff', 2: 'f', 3: 'ffsd', 4: 'sfd'}
ff
```

In [112]:

```
#write a program to create dictionary and updating a values of dictionary ?
```

```
a={1:"ff",2:"f",3:"ffsd",4:"sfd"};
```

```
print(a)
```

```
a[7]="fdjdf"
```

```
a[1]=1
```

```
print(a)
```

```
{1: 'ff', 2: 'f', 3: 'ffsd', 4: 'sfd'}
{1: 1, 2: 'f', 3: 'ffsd', 4: 'sfd', 7: 'fdjdf'}
```

In [117]:

```
#write a program to create dictionary and deleteing a values of dictionary ?
```

```
a={1:"ff",2:"f",3:"ffsd",4:"sfd"};
```

```
print(a)
```

```
del a[1]
```

```
print(a)
```

```
a.popitem()
```

```
print(a)
```

```
a.pop(3)
```

```
print(a)
```

```
{1: 'ff', 2: 'f', 3: 'ffsd', 4: 'sfd'}
{2: 'f', 3: 'ffsd', 4: 'sfd'}
{2: 'f', 3: 'ffsd'}
{2: 'f'}
```

In [119]:

```
#write a program to create dictionary and looping a values of dictionary ?
```

```
a={1:"ff",2:"f",3:"ffsd",4:"sfd"};
```

```
for k,v in a.items():
```

```
    print(k,v,end=" ")
```

```
1 ff 2 f 3 ffsd 4 sfd
```

In [120]:

```
#write a program to create dictionary and sort dictionary?
```

```
a={1:"ff",2:"f",3:"ffsd",4:"sfd"};
```

```
print(sorted(a))
```

```
[1, 2, 3, 4]
```

In [125]:

```
#write a program to create dictionary and max,min and len?
```

```
a={1:"ff",2:"f",3:"ffsd",4:"sfd"};
```

```
print(min(a),end=" ")
```

```
print(max(a),end=" ")
```

```
print(len(a),end=" ")
```

```
1 4 4
```

In [140]:

```
#write a program to create dictionary and sort values through dictionary ?
```

```
a={1:1,2:2,3:4,4:0};
```

```
for k,v in a.items():
```

```
    print(sorted(a),k,v, end="")
```

```
[1, 2, 3, 4] 1 1[1, 2, 3, 4] 2 2[1, 2, 3, 4] 3 4[1, 2, 3, 4] 4 0
```

String :¶

In [142]:

```
# write a program to create string and create first letter is capptialize ?
```

```
a="shubham s"
```

```
print(a.capitalize())
```

```
print(a.count("s"))
```

```
Shubham s
2
```

In [145]:

```
# write a program to create string and find chracter ?
```

```
a="shubham s"
```

```
print(a.find("b"))
```

```
print(a.find("s"))
```

```
3
0
```

In [147]:

```
# write a program to demostrate of string ?
```

```
a="shivtej"
```

```
print(a.endswith("j"))
```

```
print(a.endswith("s"))
```

```
True
False
```

In [148]:

```
# write a program to find length of string ?

a="shubhan"

print(len(a))
```

```
7
```

In [149]:

```
#write a program to count occurance of character?

a="shubham"

print(a.count("s"))
```

```
1
```

In [155]:

```
# write a program to demostrate use  of String ?

a="shubahm12"

print(a.isalnum())

print(a.isdigit())

print(a.islower())

a="SHU"

print(a.isupper())
```

```
True
False
True
True
```

In [162]:

```
#write a program to stirng replace the chracter ?

a="shubham"
```

```
a.replace("s","dff")
```

```
print(a)
```

```
print(a.isspace())
```

```
 shub ham
False
```

In [165]:

```
# write a program to create string and find chracter ?
```

```
a="shubham s"
```

```
print(a.rfind("b"))
```

```
print(a.rfind("u"))
```

```
print(a.index("u"))
```

```
3
2
2
```

In [168]:

```
# write a program to  convert string to upper case ?
```

```
a="shubham"
```

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

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

```
print(a.title())
```

```
SHUBHAM
shubham
Shubham
```

In [169]:

```
# write a program to  remove space of string in first
```

```
a="  shubham"
```

```
print(a.strip())
```

```
shubham
```

USER Defined function:¶

In [170]:

```
# write a program to create user defined add function ?

def add(n,n1):

    print("Addtion:-",(n+n1))

add(10,20)
```

```
Addtion:- 30
```

In [172]:

```
# write a program to create user defined sub function ?

def sub(n,n1):

    print("Substraction:-",(n-n1))

sub(10,20)
```

```
Substraction:- -10
```

In [171]:

```
# write a program to create user defined mul function ?

def mul(n,n1):

    print("multipliacation:-",(n*n1))

mul(10,20)
```

```
multipliacation:- 200
```

In [174]:

```
# write a program to create user defined add function ?

def div(n,n1):

    print("Division:-",(n/n1))

div(10,20)
```

```
Division:- 0.5
```

In [176]:

```
# write a program to create user defined factorial function ?

def fact(n):

    f=1;
```

```
    while(n>0):
        f=f*n;
        n=n-1;
    print("Factorial:-",f)
fact(5)
```

```
Factorial:- 120
```

In [177]:

```
# write a program to create user defined fibonicies series function ?
def fibo(n):
    p=0;
    p1=1;
    for i  in  range(n):
        n=p+p1;
        print(n,end=" ")
        p,p1,=p1,n

fibo(5)
```

```
1 2 3 5 8
```

In [179]:

```
# write a program to create user defined Reverse function ?
def rev(n):
   dig=0;
   re=0;
   while(n>0):
     dig=n%10;
     re=re*10+dig;
     n//=10;
```

```
    print("Reverse:-",re)


rev(123)
```

```
Reverse:- 321
```

In [181]:

```
# write a program to create user defined sum of digit function ?
def sus(n):
    dig=0;
    su=0;
    while(n>0):
      dig=n%10;
      su=su+dig;
      n//=10;
    print("sum of digit:-",su)


sus(123)
```

```
sum of digit:- 6
```

In [ ]:

```
# write a program to create user defined Reverse function ?
def rev(n):
    dig=0;
    re=0;
    while(n>0):
      dig=n%10;
      re=re*10+dig;
      n//=10;
    print("Reverse:-",re)
```

```
rev(123)
```

In [ ]:

```
# write a program to create user defined Reverse function ?
def rev(n):
    dig=0;
    re=0;
    while(n>0):
      dig=n%10;
      re=re*10+dig;
      n//=10;
    print("Reverse:-",re)

rev(123)
```

In [182]:

```
# write a program to create user defined palindrome function ?
def pal(n):
    dig=0;
    re=0;
    temp=n;
    while(n>0):
      dig=n%10;
      re=re*10+dig;
      n//=10;
    if(temp==re):
        print("palindrome")
```

```
    else:
        print("not palindrome")


pal(int(input("Enter number")))
```

```
Enter number121
palindrome
```

In [184]:

```
# write a program to create user defined Armstrong function ?
def ar(n):
    dig=0;
    arm=0;
    temp=n;
    while(n>0):
      dig=n%10;
      arm=arm+dig**3;
      n//=10;
    if(temp==arm):
        print("Armstrong number")
    else:
        print("not Armstrong ")


ar(int(input("Enter number")))
```

```
Enter number153
Armstrong number
```

In [185]:

```
#write a program to print pattern
```

```
def s():
    for i in range(5):
        print("*"*i,end=" ")
        print();


s()
```

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

In [190]:

```
#write a program to print pattern
def s():
    for i in range(5):
        print(i*i,end=" ")


s()
```

```
0 1 4 9 16
```

In [189]:

```
#write a program to print pattern
def s():
    for i in range(5):
        print(i,end=" ")
s()
```

```
0 1 2 3 4
```

Math Module¶

In [3]:

```
# write a program to calculate factorial number

import math as m

print(m.factorial(int(input("Enter number"))))
```

```
Enter number5
120
```

In [4]:

```
#write a python program demostrate use of floor division

import math as m

a=10.3;

print(m.floor(a))
```

```
10
```

In [5]:

```
#write a python program demostrate use of   ceil

import math as m

a=10.3

print(m.ceil(a))
```

```
11
```

In [6]:

```
#write a python program demostrate use of sin and cos tan

import math as m

print(m.sin(30))

print(m.cos(30))

print(m.tan(30))
```

```
-0.9880316240928618
0.15425144988758405
-6.405331196646276
```

In [7]:

```
#write a python program to demostrate pow module

import math as m
```

```
print(m.pow(2,2))
```

```
4.0
```

In [9]:

```
#write a python program to demostrate exp module
import math as m
print(m.exp(2))
```

```
7.38905609893065
```

Method overloading¶

In [11]:

```
class student:
    def hello(self,s=None):
        if(s==None):
            print("Hey",s)
        else:
            print("Hi",s)
s=student();
s.hello();
s.hello("shivtej")
```

```
Hey None
Hi shivtej
```

In [17]:

```
class add:
    def addtion(self,a=None,b=None,c=None):
        if(c==None):
            a=10;
            b=20;
```

```
            c=30;
            print("Addtion:-",(a+b))
        else:
            print("Addtion:-",a+b+c)
a=add();
a.addtion(1,2,3)
a.addtion(1,2)
```

```
Addtion:- 6
Addtion:- 30
```

In [18]:

```
class sub:
    def substraction(self,a=None,b=None,c=None):
        if(c==None):
            a=10;
            b=20;
            c=30;
            print("substraction:-",(a-b))
        else:
            print("substraction:-",a-b-c)
a=sub();
a.substraction(1,2,3)
a.substraction(1,2)
```

```
substraction:- -4
substraction:- -10
```

In [20]:

```
class factorial:
    def fact(self,n,f=None):
        if(f==None):
```

```
            f=1;
            while(n>0):
                f=f*n;
                n=n-1;
            print("Factorial:-",f);
        else:
            while(n>0):
                f=f*n;
                n=n-1;
            print("Factorial:-",f);
f=factorial()
f.fact(int(input("Enter number")))
f.fact(int(input("Enter number")),1)
```

```
Enter number5
Factorial:- 120
Enter number6
Factorial:- 720
```

In [27]:

```
class mul:
    def mu(self,a=10,b=20):
        if(b==20):
            print(b)
        else:
            print(a*b)
m=mul();
m.mu(5)
m.mu(5,10)
```

```

```

```
20
50
```

In [29]:

```
class div:

    def mu(self,a=10,b=20):

        if(b==20):

            print(b)

        else:

            print(a/b)

m=div();

m.mu(5)

m.mu(5,10)

```

```
20
0.5
```

In [31]:

```
class student:

    def getData(self,nm,mrk=78):

        if(mrk!=78):

            print("Name:-",nm)

            print("Mark:-",mrk)

        else:



            pass

s=student();

s.getData("shubham")

s.getData("shivtej",87)
```

```
Name:- shivtej
Mark:- 87
```

In [34]:

```
class car:
    def getData(self,nm,price=700000000):
        if(price==700000000):
            print("Name:-",nm)
            print("Price:-",price)
        else:
            print("Name:-",nm)
s=car();
s.getData("Mahindra")
s.getData("Disover",5000000)
```

```
Name:- Mahindra
Price:- 700000000
Name:- Disover
```

In [37]:

```
class emp:
    def em(self,nm="raj",sal=1000):
        if(sal==1000):
            print(nm)
            print(sal)
        else:
            print(nm)
            print(sal)
e=emp();
e.em("ss",1000)
e.em()
```

```
ss
1000
```

```
raj
1000
```

In [40]:

```
class laptop:
    def hh(self,nm="Dell",price="35000"):
        if(price=="35000"):
            print("Laptop:-",nm)
            print("Price:-",price)
        else:
            print("Laptop:-",nm)
            print("Price:-",price)
l=laptop();
l.hh()
l.hh("Lenovo","45000")
l.hh("Asus")
```

```
Laptop:- Dell
Price:- 35000
Laptop:- Lenovo
Price:- 45000
Laptop:- Asus
Price:- 35000
```

Method Overriding:¶

In [42]:

```
class abc:
    def hi(self,msg):
        print("Message:",msg)
class xyz(abc):
    def hi(self,msg):
        print("Message1:",msg)
```

```
x=xyz();
```

```
x.hi("shu")
```

```
Message1: shu
```

In [48]:

```
class abc:
    def hi(self,n):
        n=n;
        print("Number",n)
class xyz(abc):
    def hi(self,n):
        print("n",n)
x=xyz();
x.hi(20)
a=abc()
a.hi(20)
```

```
n 20
Number 20
```

In [50]:

```
class add:
    def a(self,n,n1=10):

        print("add:-",(n+n1))
class sub(add):
    def a(self,n,n1):
        print("sub:-",(n-n1))
x=add();
x.a(20,20)
a=add()
```

```
a.a(20)
```

```
add:- 40
add:- 30
```

In [51]:

```
class a:
    def g(self):
        print("Hi")
class b(a):
    def g(self):
        print("Hello")
b1=b();
b1.g()
```

```
Hello
```

In [52]:

```
class a:
    def g(self):
        print("base class")
class b(a):
    def g(self):
        print("dervied class")
b1=b();
b1.g()
```

```
dervied class
```

In [53]:

```
class emp:
    def g(self,nm):
        print("Name:-",nm)
        print("sal:-",200000);
```

```
class ac(emp):
    def g(self,nm):
        print("Name:-",nm)
        print("sal:-",2000);
a=ac();
a.g("raj")
```

```
Name:- raj
sal:- 2000
```

In [56]:

```
class teacher:
    def g(self,nm):
        print("Name:-",nm)
        print("sal:-",20000);
class student(teacher):
    def g(self,nm):
        print("Name:-",nm)
        print("sal:-",0);
a=student();
a.g("raj")
```

```
Name:- raj
sal:- 0
```

In [1]:

```
class laptop:
    def g(self,nm):
        print("Laptop  Name:-",nm)
class person(laptop):
```

```
    def g(self,nm):
        print("Person Name:-",nm)
a=laptop();
a.g("lenovo")
p=person()
p.g("raj")
```

```
Laptop  Name:- lenovo
Person Name:- raj
```

In [2]:

```
class fact:
    def g(self,n):
        f=1;
        while(n>0):
            f=f*n;
            n=n-1;
        print("factorial:-",f)
class addtion(fact):
    def g(self,n):
        print("addtion:-",(n+10))
a=addtion();
a.g(10)
```

```
addtion:- 20
```

In [4]:

```
class emp:
    def g(self,nm):
        pass
```

```
class ac(emp):

    def g(self,nm):

        print("Name:-",nm)

        print("sal:-",2000);

a=ac();

a.g("raj")
```

```
Name:- raj
sal:- 2000
```