```
# list
```

```
first_list=["abcd",147,2.43,"Omprakash",74.9]
print(first_list)
```

```
['abcd', 147, 2.43, 'Omprakash', 74.9]
```

```
print(first_list[0])
```

```
abcd
```

```
print(first_list[1:3])
```

```
[147, 2.43]
```

```
print(first_list[2:])
```

```
[2.43, 'Omprakash', 74.9]
```

```
print(first_list*2)
```

```
['abcd', 147, 2.43, 'Omprakash', 74.9, 'abcd', 147, 2.43, 'Omprakash', 74.9]
```

```
Small_list=[111,"Omprakash"]
print(first_list+Small_list)
```

```
['abcd', 147, 2.43, 'Omprakash', 74.9, 111, 'Omprakash']
```

```
print("Items at Position 0 : ",first_list[0])
```

```
Items at Position 0 :  abcd
```

```
print("Items at Position 2 : ",first_list[2])
```

```
Items at Position 2 :  2.43
```

```
print("Items at Position 3 : ",first_list[3])
```

```
Items at Position 3 :  Omprakash
```

```
del first_list[2]
print(first_list)
```

```
['abcd', 147, 'Omprakash', 74.9]
```

```
# Built_in function of List
```

```
# 1) Len_list
```

```
List=["Omprakash",12,1997,"SGU"]
print(len(List))
```

```
4
```

```
# 2) max_list
# 3) min_list
```

```
List1=[1200,100,50,1.01]
List2=[210,550,189]
print("Maximum Number is : ",List1, "is" , max(List1))
print("Minimum Number is : ",List2, "is" , min(List2))
```

```
Maximum Number is :  [1200, 100, 50, 1.01] is 1200
Minimum Number is :  [210, 550, 189] is 189
```

```
# 4) list_seq
```

```
Tuple=("Krishna",12,18.8,"Om")
print("List : ",list(Tuple))
```

```
List :  ['Krishna', 12, 18.8, 'Om']
```

```
# 5) map(afunction,asequence)
```

```
str=input("Enter the List : ")
```

```
Enter the List : 1 2 3 4 5
```

```
List3=list(map(int,str.split()))
```

```
print(List3)
```

```
[1, 2, 3, 4, 5]
```

```
# Built_in list Methods
# 1) list.append(obj)
```

```
list=["Om",34,2.45,"Krishna"]
print(list)
```

```
['Om', 34, 2.45, 'Krishna']
```

```
list.append(12)
print(list)
```

```
['Om', 34, 2.45, 'Krishna', 12]
```

```
list.count("Om")
print("Count is : ",list.count("Om"))
```

```
Count is :  1
```

```
List1=["OM",1,2,3,4,5]
List1.remove(4)
print(List1)
```

```
['OM', 1, 2, 3, 5]
```

```
Fruits=["Apple","Banana","Mango"]
list=Fruits.index("Mango")
print(list)
```

```
2
```

```
fruits=["Mango",2]
list=[1,3,4,5]
fruits.extend(list)
print(fruits)
```

```
['Mango', 2, 1, 3, 4, 5]
```

```
Fruits=["Apple","Banana","Mango"]
Fruits.reverse()
print("Reversed Order is : ",Fruits)
```

```
Reversed Order is :  ['Mango', 'Banana', 'Apple']
```

```
Fruits=["Apple","Banana","Mango"]
Fruits.insert(2,"Cherry")
print(Fruits)
```

```
['Apple', 'Banana', 'Cherry', 'Mango']
```

```
# list.sort(func)
```

```
list=[3,2,1,5,4]
```

```
list.sort()
print(list)
```

```
[1, 2, 3, 4, 5]
```

```
list=[3,2,1,5,4]
print("list is : ",list.pop())
```

```
list is :  4
```

```
list=[3,2,1,5,4]
print("list is : ",list.pop(2))
```

```
list is :  1
```

```
# Tuples

T1=("abcd",147,2,34,"Tom",74.9)
T2=(111,23)
print(T1,T2)
```

```
('abcd', 147, 2, 34, 'Tom', 74.9) (111, 23)
```

```
print(T1[0])
```

```
abcd
```

```
print(T1[2])
```

```
2
```

```
print(T2[0])
```

```
111
```

```
print(T1[1:4])
```

```
(147, 2, 34)
```

```
# Bulit_in tuple function

# 1) len(tuple)
# 2) max(tuple)
# 3) min(tuple)
# 4) tuple(seq)

Tuple1=(1,2,3,4,5,6,7)
a=len(Tuple1)
print("The lenght of Tuple is : ",a)
```

```
The lenght of Tuple is :  7
```

```
Tuple1=(1,2,3,4,5,6,7)
Tuple2=(123,456,789)
print("Maximum Number is : ",Tuple1, "is" , max(Tuple1))
print("Minimum Number is : ",Tuple2, "is" , min(Tuple2))
```

```
Maximum Number is :  (1, 2, 3, 4, 5, 6, 7) is 7
Minimum Number is :  (123, 456, 789) is 123
```

```
# sets

set1={1,2,3}
print(set1)
```

```
{1, 2, 3}
```

```
set2={1,2,3,2,1,2}
print(set2)
```

```
{1, 2, 3}
```

```
set3={1,2.4,5,"Apple"}
print(set3)
```

```
{1, 2.4, 5, 'Apple'}
```

```
# Built_in set functions
# 1) len(set)
# 2) max(set)
# 3) min(set)
# 4) sum(set)
# 5) sorted(set)
# 6) enumerate(set)
# 7) any(set)
# 8) a11(set)

set3={1,2.4,5,"Apple"}
print("The Lenght of Set : ",len(set3))
```

```
The Lenght of Set :  4
```

```
set={10,20,30,40,50}
set1={100,200,400,500}
print("Maximum Number is : ",set, "is" , max(set))
print("Minimum Number is : ",set1, "is" , min(set1))
```

```
Maximum Number is :  {40, 10, 50, 20, 30} is 50
Minimum Number is :  {200, 500, 100, 400} is 100
```

```
set={10,20,30,40,50}
a=sum(set)
print("The Sum of Set : ",a)
```

```
The Sum of Set :  150
```

```
set={20,40,10,45,15,5}
a=sorted(set)
print("The Sorted Set is : ",a)
```

```
The Sorted Set is :  [5, 10, 15, 20, 40, 45]
```

```
set={20,40,10,45,15,5}
a=enumerate(set)
print("The Enumerate Set is : ",a)
```

```
The Enumerate Set is :  <enumerate object at 0x0000018B625F6F00>
```

```
set={20,40,10,45,15,5}
a=any(set)
print("The any Set is : ",a)
```

```
The any Set is :  True
```

```
set={}
a=any(set)
print("The any Set is : ",a)
```

```
The any Set is :  False
```

```
set={20,40,10,45,15,5}
a=all(set)
print("The Set is : ",a)
```

```
The Set is :  True
```

```
set={}
a=all(set)
print("The Set is : ",a)
```

```
The Set is :  True
```

```
# Built_in set methods

# 1) set.add(obj)
# 2) set.remove(obj)
# 3) set.discard(obj)
# 4) set.pop()
# 5) set1.union(set2)
# 6) set1.update(set2)
# 7) set1.intersection_update()
# 8) set1.difference(set2)
# 9) set1.difference_update(set2)
# 10) set1.symmetric_difference(set2)
# 11) set1.isdisjoint(set2)
# 12) set1.issubset(set2)
# 13) set1.issuperset(set2)
```

```
set={1,2,3,4,5}
print(set)
```

```
{1, 2, 3, 4, 5}
```

```
set.add(100)
print(set)
```

```
{1, 2, 3, 4, 5, 100}
```

```
set1={"English","Hindi","Sanskrit"}
set1.remove("English")
print(set1)
```

```
{'Hindi', 'Sanskrit'}
```

```
set1={"English","Hindi","Sanskrit",}
print(set1)
```

```
{'Hindi', 'English', 'Sanskrit'}
```

```
set1.discard("Hindi")
print(set1)
```

```
{'English', 'Sanskrit'}
```

```
set={1,2,3,4,5}
print(set)
```

```
{1, 2, 3, 4, 5}
```

```
set.pop()
print(set)
```

```
{2, 3, 4, 5}
```

```
set2={"Hindi","Sanskrit",1,2,3,4}
print(set2)
set3={1,2,4,6,7}
print(set3)
```

```
{1, 2, 3, 'Sanskrit', 4, 'Hindi'}
{1, 2, 4, 6, 7}
```

```
print("The Union Set is  : ",set2.union(set3))
```

```
The Union Set is  :  {1, 2, 3, 'Sanskrit', 4, 6, 7, 'Hindi'}
```

```
print("The Update Set is  : ",set2.update(set3))
```

```
The Update Set is  :  None
```

```
set4={10,20,30}
print(set4)
```

```
{10, 20, 30}
```

```
print("The Update Set is  : ",set2.update(set4))
```

```
The Update Set is  :  None
```

```
set2.intersection(set3)
print(set2)
```

```
{1, 2, 3, 'Sanskrit', 4, 6, 7, 'Hindi', 10, 20, 30}
```

```
set2.intersection_update(set3)
print(set2)
```

```
{1, 2, 4, 6, 7, 10, 20, 30}
```

```
x = {"Apple", "Banana", "Cherry"}
y = {"Google", "Microsoft", "Apple"}
a = x.difference(y)
print(a)
```

```
{'Cherry', 'Banana'}
```

```
x = {"Apple", "Banana", "Cherry"}
y = {"Google", "Microsoft", "Apple"}
a = x.difference_update(y)
print(a)
```

```
None
```

```
x = {"Apple", "Banana", "Cherry", "Microsoft"}
y = {"Google", "Microsoft", "Apple", "Banana"}
a = x.symmetric_difference(y)
print(a)
```

```
{'Google', 'Cherry'}
```

```
x = {"Apple", "Banana", "Cherry"}
y = {"Google", "Microsoft", "Apple"}
a = x.isdisjoint(y)
print(a)
```

```
False
```

```
x = {"Apple", "Banana", "Cherry"}
y = {"Google", "Microsoft", "Samsung"}
a = x.isdisjoint(y)
print(a)
```

```
True
```

```
s1={1,2,3,4,5}
print(s1)
s2={1,2,3,6,7,8}
print(s2)
```

```
{1, 2, 3, 4, 5}
{1, 2, 3, 6, 7, 8}
```

```
print("The Subset is : ",s1.issubset(s2))
```

```
The Subset is :  False
```

```
s1={1,2,3,4,5}
print(s1)
s2={1,2,3,4,5,6,7,8}
print(s2)
```

```
{1, 2, 3, 4, 5}
{1, 2, 3, 4, 5, 6, 7, 8}
```

```
print("The Subset is : ",s1.issubset(s2))
```

```
The Subset is :  True
```

```
print("The Superset is : ",s1.issuperset(s2))
```

```
The Superset is :  False
```