In [ ]:
```
#create a list
l1=[1,2,3,4,5]
l2=list(range(1,5))
print(l1,l2)
```

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

In [ ]:
```
#len function
basket=[1,2,3,4]
len(basket)
```

Out[ ]:
```
4
```

In [ ]:
```
#slicing in list and creating a newlist
basket=[1,2,3,4,100]
newbasket=basket[2:5]
print(newbasket)
newbasket=basket[::-1]
print(newbasket)
```

```
[3, 4, 100]
[100, 4, 3, 2, 1]
```

In [ ]:
```
#combining list
l1=[1,2,3]
print(l1)
l2=["mon","tues","wed"]
print(l2)
print(l1+l2)
```

```
[1, 2, 3]
['mon', 'tues', 'wed']
[1, 2, 3, 'mon', 'tues', 'wed']
```

In [ ]:
```
#creating a list from a astring
print("hai")
print (list("hai"))
```

```
hai
['h', 'a', 'i']
```

In [ ]:
```
#slicing in list
listnew=[1,2,3]
print(listnew[0])
print(listnew[0:])
```

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

In [ ]:
```
#to print without bracket and commas
for number in [1, 2, 3, 4]:
    print(number, end = " ")
```

```
1 2 3 4
```

In [ ]:
```
#in and not in  operator in list to detect the presence or absence of
 element in list
print(3 in [1, 2, 3])
print(0 in [1, 2, 3])
print(0 not in  [1,2,3])
basket=[1,2,3,4,100]
print(1 in basket)
```

```
True
False
True
True
```

In [ ]:
```
#replace an element
example = [1, 2, 3, 4]
print(example)
example[3] = 0
print(example )
```

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

In [ ]:
```
#replace an element
numbers=[2,3,4,5]
for index in range(len(numbers)):
    numbers[index] = numbers[index] ** 2
print(numbers)
```

```
[4, 9, 16, 25]
```

In [ ]:
```
#converting a string to list and makin it upper
sentence = "This example has five words."
words = sentence.split()
print (words)
for index in range(len(words)):
   words[index] = words[index].upper()
print(words)
```

```
['This', 'example', 'has', 'five', 'words.']
['THIS', 'EXAMPLE', 'HAS', 'FIVE', 'WORDS.']
```

In [ ]:
```
#addig elements to list
#1)append
basket=[1,2,3,4]
print(basket.append(100))
print (basket)
#2)insert
basket=[1,2,3,4]
print(basket.insert(2,100))
print(basket)
#3)extend
basket=[1,2,3,4]
print(basket.extend([100,200]))
print (basket)
```

```
None
[1, 2, 3, 4, 100]
None
[1, 2, 100, 3, 4]
None
[1, 2, 3, 4, 100, 200]
```

In [ ]:
```
#index
basket=[1,2,3,4,100]
print(basket.index(3))
print (basket)
print(basket.index(3,0,4))
```

```
2
[1, 2, 3, 4, 100]
2
```

In [1]:
```
#index
basket=[1,2,3,4,100]
print(basket.index(3))
print (basket)
print(basket.index(3,0,4))
print(basket.index(4,0,2))
```

```
2
[1, 2, 3, 4, 100]
2

---------------------------------------------------------------------------
ValueError                                Traceback (most recent call l
ast)
<ipython-input-1-1bd7d2deab60> in <module>()
      4 print (basket)
      5 print(basket.index(3,0,4))
----> 6 print(basket.index(4,0,2))

ValueError: 4 is not in list
```

In [ ]:
```
#remove methods
#1)pop-give index,if not specified last elemnt will be removed
basket=[1,2,3,4,100]
print(basket.pop())
print (basket)
print(basket.pop(2))
print(basket)
#2)remove-give element to remove
basket=[1,2,3,4]
print(basket.remove(4))
print(basket)
#3)clear-removes everythings from list
basket=[1,2,3,4]
print(basket.clear())
print(basket)
```

```
100
[1, 2, 3, 4]
3
[1, 2, 4]
None
[1, 2, 3]
None
[]
```

In [ ]:
```
#sorting a list
basket=[3,2,1,5]
print(basket.sort())
print (basket)
```

```
None
[1, 2, 3, 5]
```

In [ ]:
```
#copy and reverse a list
basket=[3,2,1,5]
newbasket=basket.copy()
print (newbasket)
print(newbasket.reverse())
print(newbasket)
```

```
[3, 2, 1, 5]
None
[5, 1, 2, 3]
```

In [ ]:
```
#count
basket=[1,2,3,2,1,1]
print(basket.count(1))
```

```
3
```

In [ ]:
```
#program to search an element and display its index
element=int(input("enter the element to search"))
n=int(input("enter the size of list"))
list1=[]
for i in range(0,n):
  l=int(input("enter the element"))
  list1.append(l)
print (list1)
if (element in list1):
  print(element,"is at position",list1.index(element))
else:
  print("couldnt find")
```

```
enter the element to search2
enter the size of list2
enter the element1
enter the element2
[1, 2]
2 is at position 1
```

In [ ]:
```
# program to find sum of even numbers from a group of numbers
n=int(input("enter the limit"))
list1=[]
 vsum=0
for i in range(0,n):
  l=int(input("enter the element"))
  list1.append(l)
for i in list1:
  if (i%2==0):
    sum+=i
print("sum",sum)
```

```
enter the limit5
enter the element2
enter the element7
enter the element3
enter the element2
enter the element1
sum 4
```

In [ ]:
```
#Program to remove all duplicate elements from a list
n=int(input("enter the limit"))
list1=[]
list2=[]
sum=0
for i in range(0,n):
  l=int(input("enter the element"))
  list1.append(l)
for i in 2
list1:
  if i not in list2:
    list2.append(i)
print("new list after removing duplicates",list2)
```

```
enter the limit5
enter the element1
enter the element2
enter the element3
enter the element1
enter the element2
new list after removing duplicates [1, 2, 3]
```

In [ ]:
```
#Read a string and print the words in alphabetical order
str1=input("enter the string")
l1=str1.split()
print (l1)
l1.sort()
print (l1)
```

```
enter the stringhello how are you
['hello', 'how', 'are', 'you']
['are', 'hello', 'how', 'you']
```