```
In [1]: # Data Preparation
          ls=['Name','Roll','Address','Sub','Interest']
          print(ls)
          print(type(ls))
          ['Name', 'Roll', 'Address', 'Sub', 'Interest']
<class 'list'>
 In [2]: ls=['Name','Roll','Address','Sub','Interest']
insert=['Deepak','1200','Patna','Science','Data scientist']
          print(ls)
          print(insert)
          ['Name', 'Roll', 'Address', 'Sub', 'Interest']
['Deepak', '1200', 'Patna', 'Science', 'Data scientist']
 In [3]: ls=['Name', 'Roll', 'Address', 'Sub', 'Interest']
          print(ls[0],ls[-3],ls[-5])
          print(ls[0],ls[1],ls[2])
          Name Address Name
          Name Roll Address
 In [4]: ls=['Name','Roll','Address','Sub','Interest']
          ls[4]='Interest'
          print(ls)
          ['Name', 'Roll', 'Address', 'Sub', 'Interest']
 In [5]: ls=['Name', 'Roll', 'Address', 'Sub', 'Interest']
          ls[4]="Python"
          print(ls)
          ['Name', 'Roll', 'Address', 'Sub', 'Python']
 In [6]: ls=['Name','Roll','Address','Sub','Interest']
          ls.append(1000)
          print(ls)
          ['Name', 'Roll', 'Address', 'Sub', 'Interest', 1000]
 In [7]: ls=['Name', 'Roll', 'Address', 'Sub', 'Interest']
          ls.append("Hobby")
          print(ls)
          ['Name', 'Roll', 'Address', 'Sub', 'Interest', 'Hobby']
 In [8]: ls=['Name','Roll','Address','Sub','Interest']
ls.append("Hobby")
          ls.append("Age")
          print(ls)
          ['Name', 'Roll', 'Address', 'Sub', 'Interest', 'Hobby', 'Age']
 In [9]: ls=[]
          ls.append("Name")
          ls.append("Roll")
          ls.append("AGe")
          ls.append("Hobby")
ls.append("Address")
          ls.append("Sub")
          print(ls)
          ['Name', 'Roll', 'AGe', 'Hobby', 'Address', 'Sub']
In [10]: ls=['Name','Roll','Address','Sub','Interest']
          ls.insert(0, "Hobby")
          ls.insert(2,"Python")
          print(ls)
          ['Hobby', 'Name', 'Python', 'Roll', 'Address', 'Sub', 'Interest']
In [11]: ls=['Name','Roll','Address','Sub','Interest']
          del(1s[01)
          del(ls[1])
          print(ls)
          ['Roll', 'Sub', 'Interest']
In [12]: ls=['Name','Roll','Address','Sub','Interest']
          print(ls[1:3])
          print(ls[0])
          print(ls[0:4])
          print(ls[-3:-5])
          print(ls[:5])
          print(ls)
          print(ls[:])
```

```
['Roll', 'Address']
          Name
           ['Name', 'Roll', 'Address', 'Sub']
          []
          ['Name', 'Roll', 'Address', 'Sub', 'Interest']
['Name', 'Roll', 'Address', 'Sub', 'Interest']
['Name', 'Roll', 'Address', 'Sub', 'Interest']
In [13]: ls=[1,2,3,4,5,6,7,8,9,4,1,2,21,54,65,9,87,56,9,5,98,50]
          for i in ls:
               print(i)
          1
          2
          3
          4
          5
          6
          7
          8
          9
          4
          1
          2
          21
          54
          65
          9
          87
          56
          9
          98
          50
In [14]: ls=[1,2,3,4,5,6,7,8,9,4,1,2,21,54,65,9,87,56,9,5,98,50]
          for i in ls:
               print(ls)
          [1, 2, 3, 4, 5, 6, 7, 8, 9, 4, 1, 2, 21, 54, 65, 9, 87, 56, 9, 5, 98, 50]
          [1, 2, 3, 4, 5, 6, 7, 8, 9, 4, 1, 2, 21, 54, 65, 9, 87, 56, 9, 5, 98, 50]
          [1, 2, 3, 4, 5, 6, 7, 8, 9, 4, 1, 2, 21, 54, 65, 9, 87, 56, 9, 5, 98, 50]
[1, 2, 3, 4, 5, 6, 7, 8, 9, 4, 1, 2, 21, 54, 65, 9, 87, 56, 9, 5, 98, 50]
          [1, 2, 3, 4, 5, 6, 7, 8, 9, 4, 1, 2, 21, 54, 65, 9, 87, 56, 9, [1, 2, 3, 4, 5, 6, 7, 8, 9, 4, 1, 2, 21, 54, 65, 9, 87, 56, 9,
                                                                                 5, 98, 50]
           [1, 2, 3, 4,
                                                                                         501
          [1, 2, 3, 4, 5, 6, 7, 8, 9, 4, 1, 2, 21, 54, 65, 9, 87, 56, 9, 5, 98, 50]
                         5, 6, 7, 8, 9, 4, 1, 2, 21, 54, 65, 9, 87, 56, 9, 5, 6, 7, 8, 9, 4, 1, 2, 21, 54, 65, 9, 87, 56, 9,
                                                                                 5,
          [1, 2, 3, 4,
                                                                                    98, 50]
           [1, 2, 3, 4,
                         5, 6,
                                                                                     98,
                                                                                         50]
          [1,\ 2,\ 3,\ 4,\ 5,\ 6,\ 7,\ 8,\ 9,\ 4,\ 1,\ 2,\ 21,\ 54,\ 65,\ 9,\ 87,\ 56,\ 9,\ 5,\ 98,\ 50]
                         5, 6,
                                                2, 21, 54, 65,
                                                                 9, 87, 56, 9,
                                                                                    98,
                                      9, 4,
                                             1,
              2, 3, 4,
                                7, 8,
                                                                                         501
          [1,
                                                                                 5,
           [1,
              2,
                  3, 4,
                         5, 6,
                                7, 8,
                                      9, 4,
                                             1,
                                                2, 21, 54, 65, 9, 87,
                                                                         56, 9,
                                                                                     98. 501
          [1, 2, 3, 4, 5, 6, 7, 8, 9, 4, 1, 2, 21, 54, 65, 9, 87, 56, 9, 5, 98, 50]
          [1, 2, 3, 4,
                         5, 6,
                                7, 8, 9, 4,
                                             1, 2, 21, 54, 65, 9, 87,
                                                                         56, 9,
                                                                                 5,
                                                                                    98, 501
                               7, 8, 9, 4,
                                             1, 2, 21, 54, 65, 9, 87, 56, 9, 5, 98, 50]
           [1, 2, 3, 4, 5, 6,
           [1, 2, 3, 4, 5, 6, 7, 8, 9, 4, 1, 2, 21, 54, 65, 9, 87, 56, 9, 5, 98, 50]
          [1, 2,
                  3, 4,
                         5, 6,
                               7, 8,
                                      9, 4,
                                             1, 2, 21, 54, 65, 9, 87,
                                                                         56, 9,
                                                                                 5,
                                                                                     98, 50]
                         5, 6,
                               7, 8, 9, 4,
           [1, 2, 3, 4,
                                             1, 2, 21, 54, 65, 9, 87, 56, 9, 5, 98, 50]
           [1, 2, 3, 4,
                         5, 6, 7, 8, 9, 4, 1, 2, 21, 54, 65, 9, 87, 56, 9, 5, 98, 50]
                               7, 8, 9, 4,
          [1, 2, 3, 4,
                         5, 6,
                                             1, 2, 21, 54, 65, 9, 87, 56, 9, 5, 98, 50]
          [1, 2, 3, 4, 5, 6, 7, 8, 9, 4, 1, 2, 21, 54, 65, 9, 87, 56, 9, 5, 98, 50]
          [1, 2, 3, 4, 5, 6, 7, 8, 9, 4, 1, 2, 21, 54, 65, 9, 87, 56, 9, 5, 98, 50]
In [15]: ls=[1,2,3,4,5,6,7,8,9,4,1,2,21,54,65,9,87,56,9,5,98,50]
          for i in ls:
               print(i,ls)
          1 [1, 2, 3, 4, 5, 6, 7, 8, 9, 4, 1, 2, 21, 54, 65, 9, 87, 56, 9, 5, 98, 50]
          2 [1, 2, 3, 4, 5, 6, 7, 8, 9, 4, 1, 2, 21, 54, 65, 9, 87, 56, 9, 5,
                                                                                       98, 50]
          3 [1,
                 2, 3, 4, 5, 6, 7,
                                     8, 9, 4,
                                                1, 2, 21, 54,
                                                               65, 9,
                                                                       87,
                                                                            56, 9,
                                                                                       98,
                                                                                           50]
          4 [1, 2, 3, 4, 5, 6, 7, 8, 9, 4, 1, 2, 21, 54, 65, 9, 87, 56, 9, 5,
          5 [1, 2, 3, 4, 5, 6, 7,
                                     8, 9, 4,
                                               1, 2, 21, 54, 65, 9,
                                                                       87, 56, 9,
                                                                                   5,
                                                                                       98.
                                                                                            501
                                                                                       98,
            [1, 2, 3, 4, 5, 6, 7,
                                     8, 9, 4,
                                               1, 2, 21, 54, 65, 9,
                                                                       87,
                                                                            56, 9,
                                                                                           501
            [1, 2, 3, 4, 5, 6, 7, 8, 9, 4, 1, 2, 21, 54, 65, 9, 87, 56, 9, 5,
                                                                                       98, 50]
          8 [1, 2, 3, 4, 5, 6, 7, 8, 9, 4,
                                               1, 2, 21, 54, 65, 9, 87, 56, 9,
                                                                                       98,
                                                                                   5.
                                                                                           501
                                                      21, 54,
                                                                       87,
                                                                                       98,
          9 [1,
                    3, 4,
                           5, 6,
                                  7,
                                     8, 9, 4,
                                                1,
                                                   2,
                                                               65, 9,
                                                                            56, 9,
                                                                                            501
                                     8, 9, 4, 1, 2, 21, 54, 65, 9, 87, 56, 9, 5,
          4 [1, 2, 3,
                        4, 5, 6, 7,
                                                                                       98,
                                                                                           501
                                  7,
                                                  2,
                                                      21,
                                                                                       98,
            [1.
                 2,
                    3,
                        4, 5, 6,
                                     8, 9, 4,
                                               1,
                                                           54, 65, 9,
                                                                       87,
                                                                            56, 9,
                                                                                           501
          2 [1, 2, 3, 4, 5, 6, 7, 8, 9, 4, 1, 2, 21, 54, 65, 9, 87, 56, 9, 5, 98, 50]
          21 [1, 2, 3, 4, 5, 6, 7, 8, 9, 4, 1, 2, 21, 54, 65, 9, 87, 56, 9, 5, 98, 50]
                                          9, 4, 1, 2, 21, 54, 65, 9, 87, 56, 9,
          54 [1, 2,
                     3, 4, 5, 6,
                                   7, 8,
          65 [1, 2, 3, 4, 5, 6, 7, 8, 9, 4, 1, 2, 21, 54, 65, 9, 87, 56, 9, 5, 98, 50]
          9 [1, 2, 3, 4, 5, 6, 7,
                                     8,
                                         9, 4, 1, 2, 21, 54, 65, 9, 87, 56, 9, 5,
                                                                                       98, 501
                  2, 3, 4, 5, 6,
                                   7, 8,
                                          9, 4, 1, 2, 21, 54, 65, 9, 87, 56, 9, 5, 98, 50]
          56 [1, 2, 3, 4, 5, 6, 7, 8, 9, 4, 1, 2, 21, 54, 65, 9, 87, 56, 9, 5, 98, 50]
          9 [1, 2, 3, 4, 5, 6, 7, 8, 9, 4, 1, 2, 21, 54, 65, 9, 87, 56, 9, 5,
                                                                                       98, 50]
          5 [1, 2, 3, 4, 5, 6, 7,
                                     8, 9, 4, 1, 2, 21, 54, 65, 9, 87, 56, 9, 5, 98, 50]
          98 [1, 2, 3, 4, 5, 6, 7, 8, 9, 4, 1, 2, 21, 54, 65, 9, 87, 56, 9, 5, 98, 50] 50 [1, 2, 3, 4, 5, 6, 7, 8, 9, 4, 1, 2, 21, 54, 65, 9, 87, 56, 9, 5, 98, 50]
In [16]: ls=[1,2,3,4,5,6,7,8,9,4,1,2,21,54,65,9,87,56,9,5,98,50]
```

```
print(len(ls))
          22
In [23]: ls=[1,2,3,4,5,6,7,8,9,4,1,2,21,54,65,9,87,56,9,5,98,50]
          for i in range(len(ls)):
              print(i)
         0
         2
         3
          4
          6
         7
          8
          9
         10
          11
          12
          13
          14
          15
          16
          17
          18
          19
          20
          21
In [29]: ls=[1,2,3,4,5,6,7,8,9,4,1,2,21,54,65,9,87,56,9,5,98,50]
          print(max(ls))
          print(min(ls))
          98
          1
In [22]: ls=[1,2,3,4,5,6,7,8,9,4,1,2,21,54,65,9,87,56,9,5,98,50]
          {\tt maximum=-1}
          for i in ls:
              if maximum < i:</pre>
                  maximum = i
              print(maximum)
         1
         2
          3
          4
         5
          6
         7
         8
         9
          9
         9
          9
          21
          54
          65
          65
          87
          87
          87
         87
          98
         98
In [31]: ls=[1,2,3,4,5,6,7,8,9,4,1,2,21,54,65,9,87,56,9,5,98,50]
          print(len(ls))
          22
In [35]: ls=[1,2,3,4,5,6,7,8,9,4,1,2,21,54,65,9,87,56,9,5,98,50]
          print("The original list 1 is : " + str(ls))
          The original list 1 is : [1, 2, 3, 4, 5, 6, 7, 8, 9, 4, 1, 2, 21, 54, 65, 9, 87, 56, 9, 5, 98, 50]
 In [ ]: -
```