1.

```
mylist = [1,4,2,5,7,8,9]
mylist.insert(4,99) #a
print(mylist)      #b
mylist.remove(4)    #c
print(mylist)
mylist.append(20)   #d
print(mylist)
mylist.sort()      #e
print(mylist)
mylist.pop()       #f
print(mylist)
mylist.reverse()    #g
print(mylist)
```

2.

```
import random


mylist = []
n = int(input("Enter the number of elements:\n"))
for num in range(n):
    ran = random.randint(0,20000)
    mylist.append(ran)
print(mylist)
e = int(input("Ener the element you wanna search for..."))
flag = 0
for i in range(len(mylist)):
    if e==mylist[i]:
        flag += 1
        print("Element found in position ",i)
        break
if flag ==0:
    print("Element not found")
```

3.

```
import random


mylist = []
n = int(input("Enter the number of elements:\n"))
for num in range(n):
    ran = random.randint(0,20000)
    mylist.append(ran)
print(mylist)
e = int(input("Ener the element you wanna search for..."))
flag = 0
l = len(mylist)
mylist.sort()
lp = 0
up = l-1
while(lp<=up):
    mid = (lp+up)//2
    if e==mylist[mid]:
        flag += 1
        print("Element was found")
        break
    elif e<mylist[mid]:
        up = mid-1
    else:
        lp = mid+1
if flag == 0:
    print("Element not found")
```

4.

```
n = int(input("How many values do you want to enter??\n"))
mylist = []
for i in range(n):
    e = int(input("Enter value... "))
    mylist.append(e)
print(mylist)
flag = 0
maxp = 0
for j in range(n):
    p = 0
    for prime in range(2,mylist[j]):
        if mylist[j]%prime==0:
            p += 1
            break
    if p==0:
        if maxp<=mylist[j]:
            maxp = mylist[j]
if maxp==0:
    print("There was no prime number")
else:
    print("The largest prime number is : ",maxp)
```

5.

```
mylist = []
n = int(input("Enter the number of elements:\n"))
for num in range(n):
    mylist.append(int(input("Input element: ")))
for i in range(len(mylist)):
    #swap = 0
    for j in range(len(mylist)-1-i):
        if mylist[j] > mylist[j+1]:
            temp = mylist[j]
            mylist[j] = mylist[j+1]
            mylist[j+1] = temp
            swap = 1
    #if swap==0:
      # break

print(mylist)
```

6.

```
mylist = []
n = int(input("Enter the number of elements:\n"))
for num in range(n):
   mylist.append(int(input("Input element: ")))
for i in range(1,n):
   temp = mylist[i]
   j = i-1
   while(j>=0 and temp < mylist[j]):
      mylist[j+1] = mylist[j]
      j = j-1
   mylist[j+1] = temp
print(mylist)
```

7.

```
mylist = []
n = int(input("Enter the number of elements:\n"))
for num in range(n):
   mylist.append(int(input("Input element: ")))
mylist = list(dict.fromkeys(mylist))
print(mylist)
```

8.

```
student = []
n = int(input("Enter the number of Students whose info you wanna store:\n"))
for num in range(n):
    indiv_Student = []
    print("Please Enter the data for Student Number: ",num+1)
    student_name = input("Enter Student's Name: ")
    indiv_Student.append(student_name)
    roll_number = int(input("Enter Student's Roll No.: "))
    indiv_Student.append(roll_number)
    avg_marks = float(input("Enter Student's Average Marks: "))
    indiv_Student.append(avg_marks)
    student.append(indiv_Student)
print(student)
```

9. Challenge Question…

```
i = int(input("Enter the starting day number(it should be between 1 and j) :\n"))
j = int(input("Enter the ending day number(it should be between i and 2x10^6) :\n"))
k = int(input("Enter the divisor(it should be between 1 and 2x10^9) :\n"))
nobd = 0        #number of beautiful days
if (i>=1 and i<=j) and (j<=(2*(10**6))) and (k>=1 and k<=(2*(10**9))):
    for num in range(i,j+1):
        rev =0
        t = num
        while(t!=0):
            digit = t%10
            rev = rev*10 + digit
            t = t//10
        if rev>num:
            out = (rev-num)/k
        elif num>rev:
            out = (num-rev)/k
        else:
            out = 0

        if ((out*10)%10)==0:
            nobd += 1
    print(nobd)
else:
    print("Some values among i, j or k might not follow the given condition")
```