Prectical Set -5

1. Create a list containing several strings. Take input from the user (search string); display whether entered string is available in the list or not.

```
list = ["dhaval", "keval", "jimit", "jaydeep", "divyaraj"]
serach = input("Enter a string :")

if serach in list :
    print(serach , "Available in list.")
else :
    print(serach , "Not Available in list.")
```

2. Accept the string from the user; display the message whether the entered string is palindrome or not.

```
a = input("Enter any string :")
reverse_string = a[::-1]

if a==reverse_string:
    print("Given string is palindrome.")
else:
    print("Given string is not palindrom.")
```

3. Accept the string from the user; display the string in the reverse order.

```
a = input("Enter any string :")
reversed_string = a[::-1]

print("Reverse string : ",reversed_string)
```

4. Accept the string from the user; allow user to choose from the following options and perform the task as per user's choice. i). Convert to the upper case, ii). Convert to the lower case, iii). Convert to the swap case, iv). Convert to the title case

```
a = input("Enter any string :")
print("---------------------Choices---------------------")
print("1.Convert to UPPER CASE\n2.Convert to the lower case\n3.Convert to the swap
case\n4.Convert to the title case")
print("-------------------------------------------------")
choice = int(input("Enter Your Chice :"))
print("-------------------------------------------------")
if choice==1:
    print(a,"In UPPER CASE :")
    print(a.upper())
elif choice==2:
    print(a,"In lower case :")
    print(a.lower())
elif choice==3:
    print(a,"In Swap Case :")
```

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```
    print(a.swapcase())
elif choice==4:
    print(a,"In  Title Case :")
    print(a.title())
else:
    print("Enter Valid Choice..")
```

5. Allow users to enter multiple strings in the list; arrange the entered string into alphabetical order and display.

```
list = []
no = int(input("How many strings you want to enter in list ? "))
for i in range(no):
    item = input("Enter String {} : ".format(i+1))
    list.append(item)
print(sorted(list))
```

6. Create a tuple and display it. Enter 25 at the third position and display it again.

```
tup = {10,20,30,40,50}
print("Tuple before add 25 at third position :\n",tup)
print("-----------------------------------------------")
lst = list(tup)
lst[2] = 25
tup = tuple(lst)
print("Tuple after adding 25 at third position : \n",tup)
```

7. Create a dictionary named library with following keys (Bookid, Title, Author, Price, Publisher).
a. Display the dictionary, b. Display the name of Author, c. Display the Bookid
d. Display the length of the dictionary, e. Update the price, f. Insert year as the new key and display the dictionary again.

```
dic = {"bookid" : 1,"title" : "Lipika","author" : "Rabindranath Tagore","price" : 200,
"publisher": "Penguin Books"}
print("Display the dictionary\n",dic)
print("-------------------------------------------------------")
print("Display the name of Author\n",dic["author"])
print("-------------------------------------------------------")
print("Display the Bookid\n",dic["bookid"])
print("-------------------------------------------------------")
print("Display the length of the dictionary\n",len(dic))
print("-------------------------------------------------------")
print("Update the price\n")
print("Price before updating :",dic["price"])
dic["price"]=500
print("price after updating : ",dic["price"])
print("-------------------------------------------------------")
```

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```
print("Insert year as the new key\n")
dic["year"] = "2020"
print(dic)
```

8. Create a numeric array and perform following operations on it: Add 2 to each elements, Subtract 3 from each element, Multiply each element with 3, Divide each element by 2, Find max and min, find the average of all elements.

```
from numpy import *
arr = array([10,20,30,40])
print("Array :",arr)
print("-----------------------------------")
print("Add 2 to each elements :")
for i in range(len(arr)):
    arr[i] = arr[i] + 2
print(arr)
print("-----------------------------------")
print("Subtract 3 from each element :")
for i in range(len(arr)):
    arr[i] = arr[i]-3
print(arr)
print("-----------------------------------")
print("Multiply each element with 3 :")
for i in range(len(arr)):
    arr[i] = arr[i]*3
print(arr)
print("-----------------------------------")
print("Divide each element by 2")
for i in range(len(arr)):
    arr[i] = arr[i]/2
print(arr)
print("-----------------------------------")
print("Find max and min :")
print("Maximum value in array :",max(arr))
print("Minimum value in array :",min(arr))
print("-----------------------------------")
print("find the average of all elements")
print("Average of all eements :",average(arr))
```

9. Create a numeric array and do the following: append the element, pop the element, insert an element at the desired postion, reverse the elements in the array, convert the array to list.

```
from array import *
arr = array('i',[10,20,30,40])
print("Array :\n",arr)
print("----------------------------------------")
print("Append the element : ")
arr.append(100)
print(arr)
```

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```
print("----------------------------------------")
print("Pop the element : ")
print("Pop the element :")
arr.pop()
print(arr)
print("----------------------------------------")
print("Insert an element at the desired postion")
arr.insert(2,500)
print(arr)
print("----------------------------------------")
print("Reverse the elements in the array")
print(arr,arr.reverse())
print("----------------------------------------")
print("Convert the array to list")
lst=list(arr)
print(lst)
```

10. Accept numeric elements from the user, store it to the array and display. Ask user to enter search element. Display the position of the searched element.

```
from array import *
no = int(input("How many elements you want to enter? "))
arr = array('i',[])
for i in range(no):
    item = int(input("Enter {} element :".format(i+1)))
    arr.append(item)
print("Array :\n",arr)
print("-------------------------------------------")
search = int(input("Search Element : "))
print("Position of  the searched element is: ",arr.index(search))
```

11. Take two arrays enter 5 digits in both arrays. Compare the corresponding element from each
array and display only the bigger number.

```
from array import *
a = array('i', []);
b = array('i', []);
print("Enter 1st Array's Elements :")
for i in range(5):
    item = int(input("Enter Element {} :".format(i+1)))
    a.append(item)
print("Array 1 :\n",a)
print("-------------------------------------------")
print("Enter 2nd Array's Elements :")
for i in range(5):
    item = int(input("Enter Element {} :".format(i+1)))
    b.append(item)
print("Array 2 :\n",b)
```

```
print("-----------------------------------------")
print("Maximum Number Array")
print(max(a,b))
```

12. Accept dimension of the array and its values from the user, create an array as desired.

```
from array import *
no = int(input("How many elements You want to enter ? "))
arr = array('i',[])
for i in range(no):
    arr.append(i)
arr2 = array('i',[])
a = len(arr)+1
arr2.append(a)
for i in range(no):
    item = int(input("Enter Index Number of the Array :"))
    for x in range(len(arr2)):
        if item==arr2[x]:
            print("Please enter valid index no.")
            item = int(input("Enter Index Number of the Array :"))
        else:
            arr2.append(item)

    if item>len(arr)-1:
        print("Please enter valid index no.")
        item = int(input("Enter Index Number of the Array :"))
    else:
        val = int(input("Enter Value of arr[{}] : ".format(item)))
        arr[item] = val

print(arr)
```

13. Create a function to calculate the simple interest.

```
def cal(amount,rate):
    print("Interest :",amount*rate/100)

amount = int(input("Enter Amount : "))
rate = int(input("Enter rate : "))
cal(amount,rate)
```

14. Create a function to perform basic arithmetic operations on the number.

```
def cal(val1,val2):
    print("Sum of {} + {} = {}".format(val1,val2,val1+val2))
    print("Substration of {} - {} = {}".format(val1,val2,val1-val2))
    print("Multiplication of {} X {} = {}".format(val1,val2,val1*val2))
    print("Divison of {} / {} = {}".format(val1,val2,val1/val2))
```

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```
a = int(input("Enter Value 1 :"))
b = int(input("Enter Value 2 :"))
print("-------------------------------------")
cal(a,b)
```

15. Accept multiple strings and store it into the list using function.

```
lst = []
def insert(val):
    for i in range(no):
        item = input("Enter String {} : ".format(i+1))
        lst.append(item)
    print("List :\n",lst)

no = int(input("How many strings you want to enter? "))
insert(no)
```

16. Find the biggest number from three values using lambda.

```
val = lambda a,b,c : max(a,b,c);
print("Biggest  Number : ",val(10,20,5))
```

17. Demonstrate the use of: i). break and ii). pass.

```
num = 5
print("Break :")
for i in range(num):
    if i==3:
        break
    else:
        print(i)

print("Pass :")
for i in range(num):
    if i==4:
        pass
    print(i)
```