Practical Set -5

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# 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.


lst = ['abc', 'bcd', 'cde', 'def', 'efg']

serch = input('Enter A String you can Serch :')

if serch in lst:

    print('String is Available, String is :',serch)

else:

    print('String is not Available')


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

str = input('Enter String :')

if (str == str[::-1]):

    print('String is Palindrome => ',str)

else:

    print('String is not Palindrome => ',str)


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

str = input('Enter String :')

res_str = str[::-1]


print('Strint is => ',str)

print('Return String is => ',res_str)
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# 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


str = input('Enter String : ')


print('1. Convert to the upper case ')

print('2. Convert to the lower case ')

print('3. Convert to the swap case ')

print('4. convert to the title case')


choic = int(input('Enter Your choice between 1 to 4 : '))


if(choic == 1):

    upper = str.upper()

    print('String in Upper Case => '+upper)


if(choic == 2):

    lower = str.lower()

    print('String in Lower Case => '+lower)


if(choic == 3):

    swap = str.swapcase()
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    print('String in Swap Case => '+swap)


if(choic == 4):

    title = str.title()

    print('String in Title Case => '+title)


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

strings = []

print("Enter multiple strings ")

while True:

    string = input("\nEnter a string: ")

    if string.lower() == ' ':

        break

    strings.append(string)

strings.sort()

print("\nSorted strings")

for string in strings:

    print(string)


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


tup = (10,20,30,40,50)
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print('Orignal Tuple : ',tup)

mod_tup = tup[:2] +(25,)+ tup[2:]

print('New Tuple : ',mod_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' : 'Problem Solving using C Language',
    'Author' : 'Balaguru swami',
    'price' : 1000,
    'publisher' : 'Bell Leb'
}


print('1. Display Dictionary')
print('2. Display Name OF Author')
print('3. Display Bookid')
print('4. Display Length of Dictionary')
print('5. Update the price')
print('6. Insert Year of Dictionary')
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choice = int(input("Enter Choice Number :"))


if (choice==1):
    print('Dictionary Is',dic)
if(choice==2):
    print('Name Of Author Is : ',dic['Author'])
if(choice==3):
    print('Book Id Is : ',dic['bookid'])
if(choice==4):
    print('Length Of Dictionary Is : ',len(dic))
if(choice==5):
    print('Book Price Is :',dic['price'])
    dic.update({'price':1500})
    print('update price of Book is : ',dic['price'])
if(choice==6):
    dic.update({'year':2024})
    print('Dictionary is : ',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 = [10,20,30,40,50]
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print('1. Addition')

print('2. Substraction')

print('3. Multiplication')

print('4. Division')

print('5. Max and Min')

print('6. Average')


choice = int(input('Enter Choice Number :'))


if(choice == 1):

    narr = [i+2 for i in arr]

    print('Addition : ',narr)

if(choice == 2):

    narr = [i-3 for i in arr]

    print('Substraction : ',narr)

if(choice == 3):

    narr = [i*3 for i in arr]

    print('Multiplication : ',narr)

if(choice == 4):

    narr = [i/2 for i in arr]

    print('Division : ',narr)

if(choice == 5):
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    print(arr)

    print('Max Element In Array Is : ',max(arr))

    print('Min Element In Array Is : ',min(arr))

if(choice == 6):

    print('Average Of Array Is :  ',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.


# Array

from numpy import *

arr = [10,20,30,40,50]

# Append Element

arr.append(60)

print('Append Element : ',arr)

# Pop Element

arr.pop(1)

print('Pop Element : ',arr)

# Insert Element

arr.insert(1,15)

print('Insert Element : ',arr)

# Reverse Element

arr.reverse()

print('Reverse Element of Array : ',arr)
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# Convert array into list

lis = list(arr)

print('Convert Array into List :',lis)

print('Type :',type(lis))


# 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*

ar=array('i',[])

no=int(input('Enter number of elements you want to enter :'))

for i in range(no):

    ar.append(int(input('Enter any value : ')))

x=int(input('Enter value to search in element : '))

for i in range(no):

    if ar[i]==x:

        print('The element is present in the array at position :',i,'And the
value is : ',ar[i])


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


from numpy import *
```

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arr1 = [1000,2000,3000,4000,5000]

arr2 = [100,200,300,400,500]

if max(arr1) > max(arr2):

    print(max(arr1))

else:

    print(max(arr2))
```

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# 12. Accept dimension of the array and its values from the user, create an array as desired.
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```
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]:
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            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)
```

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```python
# 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))


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)
```

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```python
# 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)
```