ASSIGNMENT

ON

Python programs

Submitted to

Shelly Shiju George

MCA Department

Amal Jyothi College of Engineering

Submitted by

Harithakrishnan

1st year MCA A

Rollno: 40

Amal Jyothi college of Engineering

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Q1. Square of N numbers

```
>>> def squares(n):
    L = [i*i for i in range(1,n+1)]
    return L

>>> print (squares(15))
[1, 4, 9, 16, 25, 36, 49, 64, 81, 100, 121, 144, 169, 196, 225]
```

Q2 Form a list of vowels selected from a given word

```
>>> word=input("enter a word")
enter a word apple
>>> v=['a','e', 'i','o', 'u']
>>> list=[]
>>> for x in word:
        if(x in v and x not in list):
                list.append(x)


>>> print("vowels not present",list)
vowels not present ['a', 'e']
```

Q3. Count the occurrences of each word in a line of text.

```
>>> def word(str):
        counts=dict()
        words=str.split()
        for i in words:
                if i in counts:
                        counts[i] +=1
                else:
                        counts[i]=1
        return counts

>>> print(word('have a nice day'))
{'have': 1, 'a': 1, 'nice': 1, 'day': 1}
>>>
```

Q4 . Store a list of first names. Count the occurrences of ‘a’ within the list.

```
>>> newline="say hai anna"
>>> count=0
>>> for i in newline:
        if i =='a':
                count=count+1


>>> print("count of a in say hai anna: "+ str(count))
count of a in say hai anna: 4
>>>
```

Q5. Enter 2 lists of integers. Check

(a) Whether list are of same length

(b) whether list sumsto same value

(c) whether any value occur in both

```
def lists():
        list1=[]
        list2=[]
        list3=[]
        n1=int(input("total number of elements in list 1:"))
        for i in range(n1):
                val=int(input("enter a number:"))
                list1.append(val)
        n2=int(input("total number of elements in the list 2:"))
        for i in  range(n2):
                val=int(input("enter a number:"))
                list2.append(val)
```

```
        if(n1==n2):
                print("list are of same length")
        else:
                print("list are not same length:")
        if(sum(list1)==sum(list2)):
                print("sum value is same")
        else:
                print("sum value is not same")
        list3=[each for each in list1 if each in list2]
        print("values in the both lists are:",list3)
>>> lists()
total number of elements in list 1:4
enter a number:5
enter a number:6
enter a number:2
enter a number:4
total number of elements in the list 2:5
enter a number:2
enter a number:5
enter a number:7
enter a number:8
enter a number:9
list are not same length:
sum value is not same
values in the both lists are: [5, 2]
```

Q6. Get a string from an input string where all occurrences of first character replaced with‘$’, except first character.

```
>>>def change_char(str1):
  char = str1[0]
  str1 = str1.replace(char, '$')
  str1 = char + str1[1:]

  return str1

>>> print(change_char('restart'))
resta$t
```

Q7 Create a string from given string where first and last characters exchanged.

```
>>> def change_sring(str1):
      return str1[-1:] + str1[1:-1] + str1[:1]


>>>
>>> print(change_sring('abcd'))
dbca
>>>
```

Q8. Accept the radius from user and find area of circle.

```
>>> def cirarea(r):
        PI=3.14
        return PI*(r*r);

>>> num=float(input("enter r value:"))
enter r value:7
>>> print("area is %4f" % cirarea(num))
area is 153.860000
>>>
```

Q9. Accept an integer n and compute n+nn+nnn.

```
>>> n= int(input("enter a number"))
enter a number 4
>>> tp=str(n)
>>> t1=tp+tp
>>> t2=tp+tp+tp
>>> comp=n+int(t1)+int(t2)
>>> print("value",comp)
value 492
```

. **Q10. Sort dictionary in ascending and descending order**

```
>>> import operator
>>> dt = {1: 5, 3: 4, 4: 3, 2: 1, 0: 0}
>>> print('dictionary : ',dt)
dictionary :  {1: 5, 3: 4, 4: 3, 2: 1, 0: 0}
>>> s= dict(sorted(dt.items(), key=operator.itemgetter(1)))
>>> print('ascending order : ',s)
ascending order :  {0: 0, 2: 1, 4: 3, 3: 4, 1: 5}
>>> s1= dict( sorted(dt.items(), key=operator.itemgetter(1),reverse=True))
>>> print('descending order : ',s1)
descending order :  {1: 5, 3: 4, 4: 3, 2: 1, 0: 0}
>>>
```

Q11. Merge two dictionaries.

```
>>> dict1 = {'a': 10, 'b': 8}
>>> dict2 = {'d': 6, 'c': 4}
>>> def Merge(dict1, dict2):
    return(dict2.update(dict1))

>>> print(Merge(dict1, dict2))
None
>>> print(dict2)
{'d': 6, 'c': 4, 'a': 10, 'b': 8}
>>>
```

Q12. Find gcd of 2 numbers.

```
>>> import math
>>> print("the gcd of 60 and 40 is :", math.gcd(60,40))
the gcd of 60 and 40 is : 20
```