SIR SYED UNIVERSITY OF ENGINEERING & TECHNOLOGY SOFTWARE ENGINEERING DEPARTMENT

Fall 2020F

Programming Fundamentals (SWE-102) Assignment # 3

Semester: I **Batch: 2020**
Max Points: 10

Instructions:

- Attempt all questions
- Do not copy or cheat from any one, make your own effort. If any assignment found copied it will straight away be rejected.
- All questions solution contains Source Code and Output snapshot using Python Thonny IDE.
- There is no maximum page limit.
- Assignment should be in MS Word document. The Word file should be submitted by converting it to a single PDF file.
- Mention your full name and roll number on the first / front page. The page numbers must be mentioned at the right bottom corner in the whole assignment.
- The maximum font size for text is 12 and for heading is 14. The font could be Arial or the Time New Roman

Question 1 **[2.5 marks]**

Write a Python program to take 6 random numbers using 'Random' module, print all random numbers and count the number of even and odd numbers from the generated random numbers.

Output looks alike: A: 2 , B:5 , C: 6 , D:9 , E:7 , R:3

Number of even numbers: 2

Number of odd numbers: 4

CODE:

```
#Abdul Moiz Chishti
#BSE-20F-022
import random

a=[random.randrange(1, 50) for i in range(6)]
xyz=["A:"+str(a[0]),"B:"+str(a[1]),"C:"+str(a[2]),"D:"+str(a[3]),"E:"+str(a[4]),
"F:"+str(a[5]),]
print(xyz)
odd = 0
even = 0
for j in a:
    if not j % 2:
        even+=1
    else:
        odd+=1

print("number of even numbers :",even)
print("number of odd numbers :",odd)
```

OUTPUT:

```
>>> %Run 'test 2.py'

  ['A:41', 'B:42', 'C:6', 'D:5', 'E:12', 'F:35']
  number of even numbers : 3
  number of odd numbers : 3

>>>
```

Question 2 **[2.5 marks]**

Write a Python program to make a list by taking 15 inputs from the user, and repeat some inputs value as same. Then delete all repeated elements of the list.

Output looks alike: INPUT:[2,3,3,6,7,8,9,9,11,12,13,17,22,2,22]

OUTPUT: [2,3,6,7,8,9,11,12,13,17,22]

CODE:

```
#Abdul Moiz Chishti
#Bse-20F-022
i = 15
a = []
while i > 0:
    num = input("Enter number: ")
    a.append(num)
    i = i-1
print (a)
abc = []
for i in a:
    if i not in abc:
        abc.append(i)
print ("list after removing duplicates : " + str(abc))
```

OUTPUT:

```
>>> %Run 'test 1.py'

  Enter number: 1
  Enter number: 2
  Enter number: 3
  Enter number: 4
  Enter number: 5
  Enter number: 6
  Enter number: 5
  Enter number: 4
  Enter number: 3
  Enter number: 2
  Enter number: 1
  Enter number: 2
  Enter number: 3
  Enter number: 4
  Enter number: 5
  ['1', '2', '3', '4', '5', '6', '5', '4', '3', '2', '1', '2', '3', '4', '5']
  list after removing duplicates : ['1', '2', '3', '4', '5', '6']
```

Question 3 **[2.5 marks]**

Write a Python program to create a dictionary called groceries with the values, items like "rice", "orange", and "apple juice" etc, take at least 5 groceries items. Perform following task:

- Define a function called “calculate_bill” that takes one argument food as input. In the function, create a variable total with an initial value of zero. For each item in the food list, add the price of that item to total. In the end, return the total as output.
- Make the following changes to your calculate_bill function: While you loop through each item of food, only add the price of the item to total if the item's price is greater than 20. Also add 3 more items in your grocery items and remove 2 less price items in your previous groceries item. Fetch the final output

CODE:

```
#Abdul Moiz Chishti
#BSE-20F-022
```

```
groceries={'rice':3,'wheat':6,'oil':9,'eggs':12,'bread':15}


def calculate_bill():
    total=0
    count=0

    key_list = list(groceries.keys())
    val_list = list(groceries.values())
    choice= input("Enter the food:")
    price = key_list.index(choice)

    a=val_list[price]
    total= total+a
    print("Price of ",choice,"=",total)
calculate_bill()

def calculate_bil():
    print("")
    total=sum(groceries.values())
    print("Total sum of old list =",total,"\n")
    if total >20:
        groceries["milk"]=300
        groceries["salt"]=100
        groceries["sugar"]=200


        del groceries["rice"]
        del groceries["wheat"]
        print("New list=",groceries)
        total=sum(groceries.values())
        print("\nTotal Sum of new list =",total)
calculate_bil()
```

OUTPUT:

```
>>> %Run 'task 333.py'

  Enter the food:bread
  Price of  bread = 15

  Total sum of old list = 45

  New list= {'oil': 9, 'eggs': 12, 'bread': 15, 'milk': 300, 'salt': 100, 'sugar': 200}

  Total Sum of new list = 636
```

Question 4

LOGIN APPLICATION PAGE: Write a Python program to take the user name and password from the user and compare with the storing data, if the input matches with the stored data so display the home page with multiple options otherwise display invalid data, every user should have two chances to re-enter the data. Use decisions and nested looping. Output looks alike:

*****Login Page*****

User name: XXXXXX

Password: XXXXX

********** Home

page

****

Menu

****

Setting
****
Contact us
****
If data not matches
Re-enter the data? Y/N

CODE:

```
#Abdul Moiz Chishti
#BSE-20F-022
cred=["admin","123"]
count = 0
while True:
    print("******************LOGIN PAGE*********************")
    username = input("Username: ")
    password = input("Password: ")
    count = count + 1
    if count == 2:
        print("Login Attempt Over")
        break

    else:
        if username == cred[0] and password == cred[1]:
            print("Welcome\n")
            print("******************HOME PAGE*********************\n")
            print("**************MENU**************\n")
            print("**************SETTING***********\n")
            print("**************CONTACT US********\n")
            break

        else:
            print("\nUser Not Found\n")
```

OUTPUT:

```
******************LOGIN PAGE*********************
Username: admin
Password: 123
Welcome

******************HOME PAGE*********************

**************MENU**************

**************SETTING***********

**************CONTACT US********
```