PYTHON ASSIGNMENT PROGRAMS

NAME : PRACHI SACHIN MEHETRE

CLASS : SE ‘ B ’

ROLL no. :47

ASSIGNMENT 1 :

```
# Name: Prachi Mehetre

# Class: SY Computer 'B'

# Roll No: 47

# Problem Statement:

"""

Write a python program that accepts seconds as input of type integer.

The program should convert seconds in hours, minutes, seconds.

"""

sec = int(input("Enter seconds: "))

hours = int(sec / 3600)

rem = sec - 3600*hours

min = int(rem / 60)

rem = rem - 60*min

print("Hours: ", hours)

print("Minutes: ", min)

print("sec: ", rem)

"""
```

Output:

```
kkw@kkw-HP-Pro-Tower-280-G9-PCI-Desktop-PC:~/SE-B-47$ python3 assignment1.py

Enter seconds: 45800

Hours: 12

Minutes: 43

sec: 20
```

```
"""
```

ASSIGNMENT 2 :

```
"""

Name: Prachi Mehetre

Class: SY Computer 'B'

Roll No: 47

PROBLEM STATEMENT : The Marks obtained by a Student in Three different Subjects are input by the User.Python program should calulate the average marks obtained in Three Subjects and Display the Grade. The Student gets grade as per the following rules: Avg(90-100)='O', Avg(80-89)='A', Avg(70-79)='B', Avg(60-69)='C', Avg(40-59)='D', Avg(0-39)='F'.

"""

i =1

while(i>0 & i<10):
```

```
m = int(input("Enter three Marks of Three Subject Maths,Science & Computer Respectively : "))
c=int(input("Enter the Marks you obtained in "))
s=int(input("Enter the Marks you obtained in "))
if(m>0 & m<100 & c>0 & c<100 &s>0 &s<100):
avg=(m+c+s)/3
if(avg>=90):
print("\nYou are Rewarded with Grade O with the Average Marks of ",round(avg,2))
elif (avg>=80) & (avg<=89):
print("\nYou are Rewarded with Grade A with the Average Marks of ",round(avg,2))
elif (avg>=70) & (avg<79):
print("\nYou are Rewarded with Grade B with the Average Marks of ",round(avg,2))
elif (avg>=60) & (avg<69):
print("\nYou are Rewarded with Grade C with the Average Marks of ",round(avg,2))
elif (avg>=40) & (avg<59):
print("\nYou are Rewarded with Grade D with the Average Marks of ",round(avg,2))
elif (avg>=0) & (avg<39) :
print("\nYou are Rewarded with Grade F with the Average Marks of ",round(avg,2))
else :
print("Enter Valid Marks!!")
i = i+1
"""(base) kkw@kkw-HP-Pro-Tower-280-G9-PCI-Desktop-PC:~/SE-B-47$ python3 assignment2.py
Enter the Marks you obtained in Maths Subject: 10
Enter the Marks you obtained in computer Subject: 20
Enter the Marks you obtained in Science Subject: 30
You are Rewarded with Grade F with the Average Marks of 20.0
Enter the Marks you obtained in Maths Subject: -10
Enter the Marks you obtained in computer Subject: 20
Enter the Marks you obtained in Science Subject: 30
Enter Valid Marks!!
Enter the Marks you obtained in Maths Subject: 101
Enter the Marks you obtained in computer Subject: 10
Enter the Marks you obtained in Science Subject: 20
Enter Valid Marks!!
Enter the Marks you obtained in Maths Subject: 59
Enter the Marks you obtained in computer Subject: 49
Enter the Marks you obtained in Science Subject: 39
You are Rewarded with Grade D with the Average Marks of 49.0
Enter the Marks you obtained in Maths Subject: -10
Enter the Marks you obtained in computer Subject: 101
```

Enter the Marks you obtained in Science Subject: 2

Enter Valid Marks!"""

ASSIGNMENT 3 :

Name: Prachi Mehetre

Class: SY Computer 'B'

Roll No: 47

''' Floyd's triangle is a right-angled triangular array of natural numbers as

shown below:

1

2 3

4 5 6

7 8 9 10

11 12 13 14 15

Write a python program to print the Floyd‟s triangle'''

n = int(input("Enter No. of rows:-"))

t= 1

for i in range (1,n):

for j in range(1,i+1):

print(t,end=' ')

t = t+1

print()

"""o/p:-(base) kkw@kkw-HP-Pro-Tower-280-G9-PCI-Desktop-PC:~/SE-B-47/Python$ python assignment3.py

Enter No. of rows:-5

1

2 3

4 5 6

7 8 9 10 """

ASSIGNMENT 4 :

Name: Prachi Mehetre

Class: SY Computer 'B'

Roll No: 47

'''String

Write a python program that accepts a string to setup a password with

following requirements:

The password must be at least eight characters long

*It must contain at least one uppercase letter

*It must contain at least one lowercase letter

*It must contain at least one numeric digit

*The program checks the validity of password'''

```
count = c = n = 0

password = input("Enter The Password: ")

if (len(password)>=8):

length = True

for i in password:

if i.islower():

count = count+1

elif i.isupper() :

c = c+1

elif i.isdigit() :

n = n +1

if(count>=1 and c>=1 and n>=1 and length):

print("Password is Valid")

else:

print("Password is Invalid")

if(count<1):

print("Invalid Due to lowercase is not present")

if(c<1):

print("Invalid Due to Uppercase is not present")

if(n<1):

print("Invalid because digit is not present")

if(length):

print("Invalid because 8 digit are not present")

""" o/p:-

kkw@kkw-HP-Pro-Tower-280-G9-PCI-Desktop-PC:~/SE-B-47$ python3 assignment4.py

Enter The Password: Mrtiuerk

Password is Invalid

Invalid because digit is not present

kkw@kkw-HP-Pro-Tower-280-G9-PCI-Desktop-PC:~/SE-B-47$ python3 assignment4.py

Enter The Password: Mtierus#2e

Password is Valid"""
```

ASSIGNMENT 5 :

```
# Name: Prachi Mehetre

# Class: SY Computer 'B'

# Roll No: 47

'''List

Write a python program to

35/17 Find the sum and average of given numbers using lists

35/17 Display elements of list in reverse order
```

35
17 Find the minimum and maximum elements in the lists'''

```
list = [1,2,3,4,5,6,7]
print(list)
print("sum:- ",sum(list))
c = 0
for i in list:
c += i
print("Sum:- ",c)
print("Avg:- ",sum(list)/len(list))
print("Maximum:-",max(list),"\nMinimum:- ",min(list))
b = list[0]
list[0] = list[len(list)-1]
list[len(list)-1] = b
print("List Swapping First and last element:- ",list)
list.reverse()
print("Reverse List:- ",list)
```

'''o/p:- (base) kkw@kkw-HP-Pro-Tower-280-G9-PCI-Desktop-PC:~/SE-B-47/Python$ python assignment5.py

[1, 2, 3, 4, 5, 6, 7]

sum:- 28

Sum:- 28

Avg:- 4.0

Maximum:- 7

Minimum:- 1

Reverse List:- [7, 6, 5, 4, 3, 2, 1]

'''

ASSIGNMENT 6 :

'''

Name: Prachi Mehetre

Class: SY Computer 'B'

Roll No: 47

Tuple

Write a Python program to sort a tuple by its float element.

Sample data: [('item1', '13.10'), ('item2', '17.10'), ('item3', '25.3')]

Expected Output: [('item3', '25.3'), ('item2', '17.10'), ('item1', '13.10')] '''

```
data = [('item1', '13.10'), ('item2', '17.10'), ('item3', '25.3')]
def float_data(ele):
return(ele[1])
sorted_data = sorted(data,key= float_data,reverse = True)
print("Original Data:- ",data)
```

```
print("Sorted Data:- ",sorted_data)

sort_data = sorted(data,key = lambda x:x[1],reverse = True)

print("Sorted Data with Lambda Function:- ",sort_data)

"""output:-

kkw@kkw-HP-Pro-Tower-280-G9-PCI-Desktop-PC:~/SE-B-47$ python3 assignment6.py

Original Data:- [('item1', '13.10'), ('item2', '17.10'), ('item3', '25.3')]

Sorted Data:- [('item3', '25.3'), ('item2', '17.10'), ('item1', '13.10')]

Sorted Data with Lambda Function:- [('item3', '25.3'), ('item2', '17.10'), ('item1', '13.10')]

"""
```

ASSIGNMENT 7 :

```
"""

Name: Prachi Mehetre

Class: SY Computer 'B'

Roll No: 47

Dictionary

Write a python program to read string from user and create a dictionary

having key as word length and value is count of words of that length.

1. For example, if user enters „I scream you scream we all scream for ice

cream‟

Word length

I 1

scream 6

you 3

scream 6

we 2

all 3

scream 6

for 3

ice 3

cream 5

The content of dictionary should be {1:1, 6:3, 3:4, 2:1, 5:1} """

"""

Name - Mrunal Gorwadkar

class - CSD SY

Roll No :- 26

"""

sent = input("Enter the sentence: - ")

s1 = sent.split()

print(s1)
```

```
di = { }
print ("\nWord\t\tWord Length")
for i in s1:
length = len(i)
if length in di:
di[length] +=1;
else:
di[length] =1;
print(i,"\t\t",length)
print(di)
""" o/p:-
kkw@kkw-HP-Pro-Tower-280-G9-PCI-Desktop-PC:~/SE-B-47$ python3 assignment_7.py
Enter the sentence: - I scream you scream we all scream for ice
cream‘['I', 'scream', 'you', 'scream', 'we', 'all', 'scream', 'for', 'ice']
Word Word Length
I 1
scream 6
you 3
scream 6
we 2
all 3
scream 6
for 3
ice 3
{1: 1, 6: 3, 3: 4, 2: 1}
kkw@kkw-HP-Pro-Tower-280-G9-PCI-Desktop-PC:~/SE-B-47$ python3 assignment_7.py
Enter the sentence: - my name is what you know
['my', 'name', 'is', 'what', 'you', 'know']
Word Word Length
my 2
name 4
is 2
what 4
you 3
know 4
{2: 2, 4: 3, 3: 1}
kkw@kkw-HP-Pro-Tower-280-G9-PCI-Desktop-PC:~/SE-B-47$
"""
```

ASSIGNMENT 8 :

```
# Name: Prachi Mehetre

# Class: SY Computer 'B'

# Roll No: 47

"""

Write a python program to perform operations on sets

"""

set1 = {'Arts', 'Civics', 'History', 'Geography'}

set2 = {'Science', 'Bio', 'History', 'Geography', 'Physics', 'Maths', 'Chemistry'}

union = set1.union(set2)

difference = set1.difference(set2)

intersection = set1.intersection(set2)

print("Set 1: ", set1)

print("Set 2: ", set2)

print("Set 1 union Set 2: ", union)

print("Set 1 - Set 2: ", difference)

print("Set 1 intersection set2: ", intersection)

""" Output:

(base) kkw@kkw-HP-Pro-Tower-280-G9-PCI-Desktop-PC:~/SE-B-47/Python$ python assignment8.py

Set 1: {'History', 'Civics', 'Geography', 'Arts'}

Set 2: {'History', 'Geography', 'Maths', 'Chemistry', 'Physics', 'Science', 'Bio'}

Set 1 union Set 2: {'Geography', 'Chemistry', 'Science', 'Bio', 'History', 'Maths', 'Physics', 'Civics', 'Arts'}

Set 1 - Set 2: {'Civics', 'Arts'}

Set 1 intersection set2: {'History', 'Geography'}

"""
```

ASSIGNMENT 9 :

```
# Name: Prachi Mehetre

# Class: SY Computer 'B'

# Roll No: 47

"""Function

Write a function in python to display the elements of list thrice if it is a

number and display the element terminated with „#“ if it is not a number.

Suppose the following input is supplied to the program:

[„23“,„MAN“,„GIRIRAJ“, „24“,„ZARA“]

The output should be

232323

MAN#

GIRIRAJ#

242424

ZARA#"""
```

```
mylist = ['23',"MAN","GIRIRAJ", '24',"ZARA"]

def funct(mylist):

for item in mylist:

if item.isdigit():

print(item*3)

else:

print(item +'#')

funct(mylist)

"""

kkw@kkw-HP-Pro-Tower-280-G9-PCI-Desktop-PC:~/SE-B-47$ python3 assignment9.py

232323

MAN#

GIRIRAJ#

242424

ZARA#"""
```
