Python Practical (208) – Last Year Paper

'''

1. Write a Python program to create a data file containing numbers.

2. Write a Python program to do the following for the numbers stored in the file created in Q.1. or consider a list of numbers (if you were not able to create the file in Q.1.):

a. Sum and Average of all the numbers.

b. Count and sum of all the odd numbers in the list.

c. Count and sum of all the even numbers in the list.

d. Find the largest number in the list.

e. Find the smallest number in the list.

Display all the values with appropriate titles.

'''

```
# file input

import sys

f = open("num.txt","a")

while True:
    num = input()
    if(len(num) == 0):
        break
    try:
        x = int(num)
        f.write(num+"\t")
    except:
        print("Please enter numbers only.....")

f.close()

# read all data

with open("num.txt") as f:
```

```
    print(f.read())
```

 # a. Sum and average of all numbers

```
f = open("num.txt")
num = f.read().strip().split("\t")

print(num)

sum = 0
for i in num:
    sum += int(i)

avg = sum/len(num)

print("Sum : ",sum)
print("Average : {:.2f}".format(avg))
```

 # b. Count and sum of all the odd numbers in the list.

 # c. Count and sum of all the even numbers in the list.

```
oddsum = 0
evensum = 0
oddcount = 0
evencount = 0

for i in num:
    if(int(i)%2 == 0):
        evencount += 1
        evensum += int(i)
    else:
        oddcount += 1
        oddsum += int(i)
```

```
print("Odd Count : ",oddcount)
print("Odd Sum : ",oddsum)
print("Even Count : ",evencount)
print("Even Sum : ",evensum)
```

 # d. Find the largest number in the list.

 # e. Find the smallest number in the list.

```
#min = sys.maxsize
min = int(num[0])
max = int(num[0])
for i in num:
    if(int(i) < min):
        min = int(i)
    if(int(i) > max):
        max = int(i)

print("Smallest Number : ",min)
print("Largest Number : ",max)
```

'''

1. Write a Python program to create a text data file containing details about Students with attributes: StudentId, StudentName, CourseName, Marks1, Marks2, Marks3.

2. Write a Python program read the data file created in 1 and perform the following:

a. Print details (Id, Name, CourseName, TotalMarks, Percentage) of all the students in an appropriate format.

b. Print details (Id, Name, TotalMarks, Percentage) of a particular course (take input of CourseName from the user) in an appropriate format.

'''

 # file input

```
f = open("stud.txt","a")
while True:
   sid = input("ENter ID : ")
   if((int(sid[0]) == 0) or (len(sid) == 0)):
      break
   name = input("ENter NAme : ")
   course = input("ENter Course : ")
   m1 = input("Enter M1 : ")
   m2 = input("Enter M2 : ")
   m3 = input("Enter M3 : ")

   stud = sid + "\t" + name + "\t" + course + "\t" + m1 + "\t" + m2 + "\t" + m3 + "\n";
   f.write(stud)

f.close()
```

 # show all record

```
print("Show All Record : ")
print("=================================================================================")
print("ID\tName\tCourse\tM1\M2\tM3\tTotal\tPercentage")
print("=================================================================================")

f = open("stud.txt")
for i in f.readlines():
```

```
    rec = i.strip().split("\t")
    sid = rec[0]
    name = rec[1]
    course = rec[2]
    tot = int(rec[3]) + int(rec[4]) + int(rec[5]);
    per = tot/3
    #stud = i + "\t" + tot + "\t" + per
    print(sid, "\t" , name, "\t" , course, "\t" , tot , "\t" , per)
f.close()
```

 # show perticular course record

```
print("================================================================================")

course = input("ENter Course : ")

print("Show All Record of Course : ",course)
print("================================================================================")
print("ID\tName\tCourse\tM1\M2\tM3\tTotal\tPercentage")
print("================================================================================")
f = open("stud.txt")
for i in f.readlines():
    rec = i.strip().split("\t")
    if(course == rec[2]):
        sid = rec[0]
        name = rec[1]
        course = rec[2]
        tot = int(rec[3]) + int(rec[4]) + int(rec[5]);
        per = tot/3
        #stud = i + "\t" + tot + "\t" + per
        print(sid, "\t" , name, "\t" , course, "\t" , tot , "\t" , per)
f.close()
```