**Assignment- A02**

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**Roll No.:08**

**Problem Statement:**Write a Python program to store marks scored in subject “Fundamental of Data Structure” by N students in the class. Write functions to compute following:

a) The average score of class

b) Highest score and lowest score of class

c) Count of students who were absent for the test

d) Display mark with highest frequency

**Program:**

**def average(l):#Avg Score**

**sum = 0**

**cnt = 0**

**for i in range(len(l)):**

**if l[i] != -1:**

**sum += l[i]**

**cnt += 1**

**avg = sum / cnt**

**print("Total Marks are : ", sum)**

**print("Average Marks are : {:.2f}".format(avg))**

**def Maximum(l):#Highest Score**

**Max = l[0]**

**for i in range(len(l)):**

**if l[i] > Max:**

**Max = l[i]**

**return (Max)**

**def Minimum(l):#Lowest Score, Use of array and for loop**

**for i in range(len(l)):**

**if l[i] != -1:**

**Min = l[i]**

**break**

**for j in range(i + 1, len(l)):**

**if l[j] != -1 and l[j] < Min:**

**Min = l[j]**

**return (Min)**

**def absentCnt(l):#No. of absent students**

**cnt = 0**

**for i in range(len(l)):**

**if l[i] == -1:**

**cnt += 1**

**return (cnt)**

**def maxFrequency(l):#Marks with highest frequency**

**i = 0**

**Max = 0**

**print(" Marks ----> frequency count ")**

**for ele in l:**

**if l.index(ele) == i:**

**print(ele, "---->", l.count(ele))**

**if l.count(ele) > Max:**

**Max = l.count(ele)**

**mark = ele**

**i += 1**

**return (mark, Max)**

**print("Enter the no of students and their marks accordingly\n")**

**marksInFDS = []**

**noStudents = int(input("Enter total number of students : "))**

**for i in range(noStudents):**

**marks = int(input("Enter marks of Student " + str(i + 1) + " : "))**

**marksInFDS.append(marks)**

**flag = 1**

**while flag == 1:**

**print("/\*\*\*\*\*\*\*\*\*\*\*\*\*MENU\*\*\*\*\*\*\*\*\*\*\*\*\*\*/")**

**print("1. The average score of class ")**

**print("2. Highest score and lowest score of class ")**

**print("3. Count of students who were absent for the test ")**

**print("4. Display mark with highest frequency ")**

**print("5. Exit ")**

**choice = int(input("Enter your choice : "))**

**if choice == 1:**

**average(marksInFDS)**

**elif choice == 2:**

**print("Highest score in the class is : ", Maximum(marksInFDS))**

**print("Lowest score in the class is : ", Minimum(marksInFDS))**

**elif choice == 3:**

**print("Count of students who were absent for the test is : ", absentCnt(marksInFDS))**

**elif choice == 4:**

**mark, count = maxFrequency(marksInFDS)**

**print("Highest frequency of marks {0} is {1} ".format(mark, count))**

**else:**

**print("Wrong choice")**

**flag = 0**

**#END**

**Output:**

**Enter the no of students and their marks accordingly**

**Enter total number of students : 4**

**Enter marks of Student 1 : 30**

**Enter marks of Student 2 : 35**

**Enter marks of Student 3 : 30**

**Enter marks of Student 4 : -1**

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**1. The average score of class**

**2. Highest score and lowest score of class**

**3. Count of students who were absent for the test**

**4. Display mark with highest frequency**

**5. Exit**

**Enter your choice : 1**

**Total Marks are : 94**

**Average Marks are : 23.50**

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**1. The average score of class**

**2. Highest score and lowest score of class**

**3. Count of students who were absent for the test**

**4. Display mark with highest frequency**

**5. Exit**

**Enter your choice : 2**

**Highest score in the class is : 35**

**Lowest score in the class is : -1**

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**1. The average score of class**

**2. Highest score and lowest score of class**

**3. Count of students who were absent for the test**

**4. Display mark with highest frequency**

**5. Exit**

**Enter your choice : 3**

**Count of students who were absent for the test is : 1**

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**1. The average score of class**

**2. Highest score and lowest score of class**

**3. Count of students who were absent for the test**

**4. Display mark with highest frequency**

**5. Exit**

**Enter your choice : 4**

**Marks ----> frequency count**

**30 ----> 2**

**35 ----> 1**

**-1 ----> 1**

**Highest frequency of marks 30 is 2**

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**1. The average score of class**

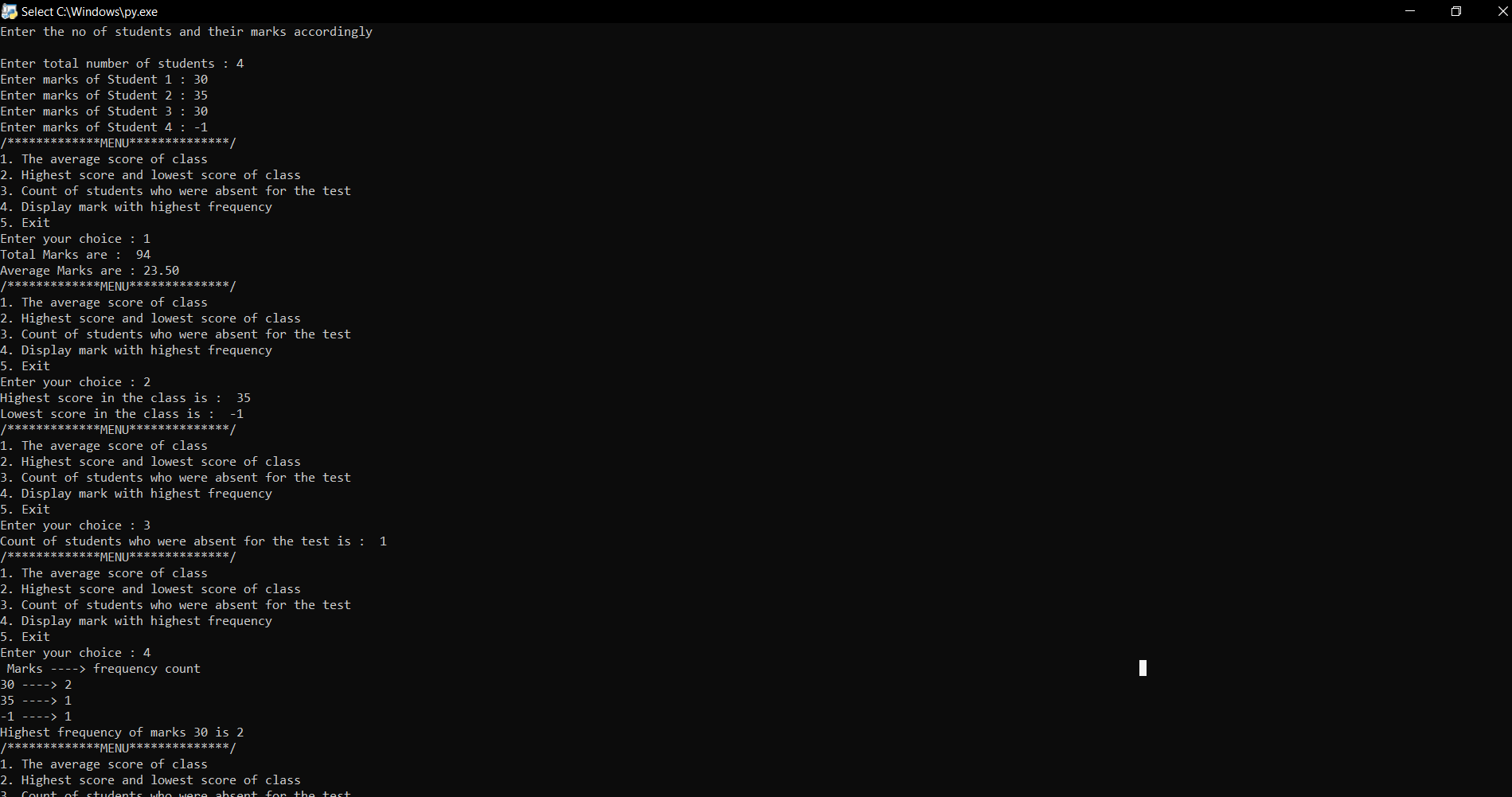
**2. Highest score and lowest score of class**

**3. Count of students who were absent for the test**

**4. Display mark with highest frequency**

**5. Exit**

**Enter your choice :**

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