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Q batch Comp-2

Group A-2

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

def Q1(marks):

if not marks:

return 0

total = 0

count = 0

for mark in marks:

total += mark

count += 1

average = total / count

return average

def Q2(marks):

if not marks:

return None, None

highest = marks[0]

lowest = marks[0]

for mark in marks:

if mark > highest:

highest = mark

elif mark < lowest and mark !=0:

lowest = mark

return highest, lowest

def Q3(marks):

count=0

for i in marks:

if i ==0:

count+=1

return count

def Q4(marks):

if not marks:

return None

mark\_count = {}

for mark in marks:

if mark in mark\_count:

mark\_count[mark] += 1

else:

mark\_count[mark] = 1

mcm = max(mark\_count, key=mark\_count.get)

return mcm

n = int(input("Enter the number of students: "))

marks = []

for i in range(n):

mark = float(input(f"Enter the marks of student {i+1}: "))

marks.append(mark)

while True:

print("\n\*\*\*\*\*\*\*\*\*Menu\*\*\*\*\*\*\*\*\*\*\*")

print("1. Calculate average score of the class")

print("2. Find the highest and lowest scores in the class")

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

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

print("5. Exit")

choice = input("Enter your choice: ")

if choice == '1':

average = Q1(marks)

print(f"Average score of the class: {average}")

elif choice == '2':

highest, lowest = Q2(marks)

print(f"Highest score in the class: {highest}")

print(f"Lowest score in the class: {lowest}")

elif choice == '3':

absent\_students = Q3(marks)

print(f"Count of students absent for the test: {absent\_students}")

elif choice == '4':

mcm = Q4(marks)

print(f"Mark with the highest frequency: {mcm}")

elif choice == '5':

print("Thank You...")

break

else:

print("Invalid choice")

OUTPUT

Enter the number of students: 3

Enter the marks of student 1: 23

Enter the marks of student 2: 22

Enter the marks of student 3: 21

\*\*\*\*\*\*\*\*\*Menu\*\*\*\*\*\*\*\*\*\*\*

1. Calculate average score of the class

2. Find the highest and lowest scores in the class

3. Count of students absent for the test

4. Display mark with the highest frequency

5. Exit

Enter your choice: 1

Average score of the class: 22.0

\*\*\*\*\*\*\*\*\*Menu\*\*\*\*\*\*\*\*\*\*\*

1. Calculate average score of the class

2. Find the highest and lowest scores in the class

3. Count of students absent for the test

4. Display mark with the highest frequency

5. Exit

Enter your choice: 2

Highest score in the class: 23.0

Lowest score in the class: 21.0

\*\*\*\*\*\*\*\*\*Menu\*\*\*\*\*\*\*\*\*\*\*

1. Calculate average score of the class

2. Find the highest and lowest scores in the class

3. Count of students absent for the test

4. Display mark with the highest frequency

5. Exit

Enter your choice: 3

Count of students absent for the test: 0

\*\*\*\*\*\*\*\*\*Menu\*\*\*\*\*\*\*\*\*\*\*

1. Calculate average score of the class

2. Find the highest and lowest scores in the class

3. Count of students absent for the test

4. Display mark with the highest frequency

5. Exit

Enter your choice: 43

Invalid choice

\*\*\*\*\*\*\*\*\*Menu\*\*\*\*\*\*\*\*\*\*\*

1. Calculate average score of the class

2. Find the highest and lowest scores in the class

3. Count of students absent for the test

4. Display mark with the highest frequency

5. Exit

Enter your choice: