Assignment No 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

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def get_marks(n):
    marks = []

    for i in range(n):
        while True:
            try:
                mark = float(input(f"Enter the marks for student {i + 1}: "))
                if mark >= 0 and mark <= 100:
                    marks.append(mark)
                    break
                else:
                    print("Invalid input! Marks should be between 0 and 100.")
            except ValueError:
                print("Invalid input! Please enter a valid numeric value.")
    return marks

def calculate_average(marks):
    sums=0
```

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    if not marks:
        return 0
    else:
        for i in marks:
            sums=sums+i
    return sums / len(marks)

def find_highest_score(marks,n):
    maximum=marks[0]
    if not marks:
        return None
    else:
        for i in range(1,n):
            if(marks[i]>maximum):
                maximum=marks[i]

    return maximum

def find_lowest_score(marks,n):
    minimum=marks[0]
    if not marks:
        return None
    else:
        for i in range(1,n):
            if(marks[i]<minimum):
                minimum=marks[i]
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    return minimum



def count_absent_students(marks):
    n = int(input("Enter the total number of students in the class: "))
    return n - len(marks)

def find_freq(marks):
    if not marks:
        return None
    else:
        max_freq = 0
        res = marks[0]
        for i in marks:
            freq = marks.count(i)
            if freq > max_freq:
                max_freq= freq
                res = i

       # printing result
        print ("Most frequent number is : " + str(res))
    return res

if __name__ == "__main__":
    n = int(input("Enter the number of students: "))
    marks = get_marks(n)
    print("Average score of the class:", calculate_average(marks))
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print("Highest score of the class:", find_highest_score(marks,n))
print("Lowest score of the class:", find_lowest_score(marks,n))
print("Count of students who were absent for the test:", count_absent_students(marks))
print("Mark(s) with the highest frequency:", find_freq(marks))
```