**INPUT CODE:**

def accept\_marks(A):

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

for i in range(n):

while True:

x = input(f"Enter the marks scored in FDS for student {i+1}: ")

if x == "AB":

x = -1 # indicates Absent students

break

try:

x = int(x)

if 0 <= x <= 30:

break

else:

print("Please enter valid marks out of 30")

except ValueError:

print("Invalid input! Please enter a number or 'AB' for absent.")

A.append(x)

print("Marks accepted & stored successfully")

def display\_marks(A):

print("\nMarks Scored in FDS")

for i in range(len(A)):

if A[i] == -1:

print(f"\tStudent {i+1}: AB")

else:

print(f"\tStudent {i+1}: {A[i]}")

def find\_average\_score\_of\_class(A):

total = 0

count = 0

for mark in A:

if mark != -1: # exclude absent students

total += mark

count += 1

avg = total / count if count > 0 else 0

display\_marks(A)

print(f"\nAverage score of class is {avg:.2f}\n")

def find\_highest\_and\_lowest\_score\_of\_class(A):

max\_mark = -1

min\_mark = 31

max\_ind = min\_ind = -1

for i, mark in enumerate(A):

if mark != -1: # exclude absent students

if mark > max\_mark:

max\_mark = mark

max\_ind = i

if mark < min\_mark:

min\_mark = mark

min\_ind = i

display\_marks(A)

if max\_ind != -1 and min\_ind != -1:

print(f"Highest Mark Score of class is {max\_mark} scored by student {max\_ind + 1}")

print(f"Lowest Mark Score of class is {min\_mark} scored by student {min\_ind + 1}")

else:

print("No valid scores to compare.")

def find\_count\_of\_absent\_students(A):

count = A.count(-1)

display\_marks(A)

print(f"\tAbsent Student Count = {count}")

def display\_mark\_with\_highest\_frequency(A):

freq\_map = {}

for mark in A:

if mark != -1: # exclude absent students

freq\_map[mark] = freq\_map.get(mark, 0) + 1

if freq\_map:

Marks = max(freq\_map, key=freq\_map.get)

freq = freq\_map[Marks]

display\_marks(A)

print(f"\nMarks with highest frequency is {Marks} ({freq})")

else:

print("No valid marks to determine frequency.")

def main():

FDS\_Marks = []

while True:

print("\t\t1 : Accept FDS Marks")

print("\t\t2 : Average score of class")

print("\t\t3 : Highest score and lowest score of class")

print("\t\t4 : Count of students who were absent for the test")

print("\t\t5 : Display mark with highest frequency")

print("\t\t6 : Exit")

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

if ch == 6:

print("End of Program")

break

elif ch == 1:

accept\_marks(FDS\_Marks)

display\_marks(FDS\_Marks)

elif ch == 2:

find\_average\_score\_of\_class(FDS\_Marks)

elif ch == 3:

find\_highest\_and\_lowest\_score\_of\_class(FDS\_Marks)

elif ch == 4:

find\_count\_of\_absent\_students(FDS\_Marks)

elif ch == 5:

display\_mark\_with\_highest\_frequency(FDS\_Marks)

else:

print("Wrong choice entered! Try again")

if \_\_name\_\_ == "\_\_main\_\_":

main()

OUTPUT:

1 : Accept FDS Marks

2 : Average score of class

3 : Highest score and lowest score of class

4 : Count of students who were absent for the test

5 : Display mark with highest frequency

6 : Exit

Enter your choice : 1

Enter the total number of students: 5

Enter the marks scored in FDS for student 1: 23

Enter the marks scored in FDS for student 2: 24

Enter the marks scored in FDS for student 3: 25

Enter the marks scored in FDS for student 4: 26

Enter the marks scored in FDS for student 5: 27

Marks accepted & stored successfully

Marks Scored in FDS

Student 1: 23

Student 2: 24

Student 3: 25

Student 4: 26

Student 5: 27

1 : Accept FDS Marks

2 : Average score of class

3 : Highest score and lowest score of class

4 : Count of students who were absent for the test

5 : Display mark with highest frequency

6 : Exit

Enter your choice : 2

Marks Scored in FDS

Student 1: 23

Student 2: 24

Student 3: 25

Student 4: 26

Student 5: 27

Average score of class is 25.00

1 : Accept FDS Marks

2 : Average score of class

3 : Highest score and lowest score of class

4 : Count of students who were absent for the test

5 : Display mark with highest frequency

6 : Exit

Enter your choice : 3

Marks Scored in FDS

Student 1: 23

Student 2: 24

Student 3: 25

Student 4: 26

Student 5: 27

Highest Mark Score of class is 27 scored by student 5

Lowest Mark Score of class is 23 scored by student 1

1 : Accept FDS Marks

2 : Average score of class

3 : Highest score and lowest score of class

4 : Count of students who were absent for the test

5 : Display mark with highest frequency

6 : Exit

Enter your choice : 4

Marks Scored in FDS

Student 1: 23

Student 2: 24

Student 3: 25

Student 4: 26

Student 5: 27

Absent Student Count = 0

1 : Accept FDS Marks

2 : Average score of class

3 : Highest score and lowest score of class

4 : Count of students who were absent for the test

5 : Display mark with highest frequency

6 : Exit

Enter your choice : 5

Marks Scored in FDS

Student 1: 23

Student 2: 24

Student 3: 25

Student 4: 26

Student 5: 27

Marks with highest frequency is 23 (1)

1 : Accept FDS Marks

2 : Average score of class

3 : Highest score and lowest score of class

4 : Count of students who were absent for the test

5 : Display mark with highest frequency

6 : Exit

Enter your choice : 6

End of Program

=== Code Execution Successful ===