Algorithm and Pseudocode for the Assignment 1:

Algorithm 1 (Calculation of the Maximum and Minimum marks of the Class of Students)

The pseudocode for the calculation of the maximum marks and minimum marks from a class of 25 students.

MAXIMUM MARKS OF THE CLASS

Begin the Program

Get the details of name of unit subject.

Loop: (Student Number)

Get the marks of the students

Validate the marks of the student input

Store in the Student Marks Array

Create variable Maximum Marks

Assign Maximum Marks with the first mark of the Student

Loop: (Student Number)

Check Student Marks is greater than the Maximum Marks

If yes, reassign the Maximum Marks with the Student Marks

Display the Maximum Marks as the output.

End the Program

MINIMUM MARKS OF THE CLASS

Begin the Program

Get the details of name of unit subject.

Loop: (Student Number)

Get the marks of the students

Validate the marks of the student input

Store in the Student Marks Array

Create variable Minimum Marks

Assign Minimum Marks with the first mark of the Student

Loop: (Student Number)

Check Student Marks is lesser than the Minimum Marks

If yes, reassign the Minimum Marks with the Student Marks

Display the Minimum Marks as the output.

End the Program

Algorithm 2 (Calculation of the Average (Mean) and Standard Deviation of the Class of Students)

The pseudocode for the calculation of the mean marks and standard deviation from a class of 25 students.

MEAN MARKS OF THE CLASS

Begin the Program

Get the details of name of unit subject.

Loop: (Student Number)

Get the marks of the students

Validate the marks of the student input

Store in the Student Marks Array

Create variable Mean Marks

Create variable Sum Marks

Loop: (Student Number)

Sum of Marks = Sum of Marks + Student Marks

Calculate the Mean Marks by dividing the Sum of Mark with the Number of Students

Display the Mean Marks as the output.

End the Program

STANDARD DEVIATION OF THE CLASS

Begin the Program

Get the details of name of unit subject.

Loop: (Student Number)

Get the marks of the students

Validate the marks of the student input

Store in the Student Marks Array

Create variable Standard Deviation and initialize with zero.

Create variable Standard Deviation Student Marks, which will store the difference between the Student Marks and the Mean Marks of the Class.

Loop: (Student Number)

Standard Deviation Student Marks = Standard Deviation Student Marks + Square of Difference between Class Mean and Student Marks.

Calculate the Standard Deviation by the Standard Deviation Student Marks with Number of Students - 1

Display the Standard Deviation of the Class as the output.

End the Program