

Algorithm for Highest and Lowest Mark

1. Ask for Unit name
2. Declare arrayMarks variable;
3. Repeat 4 and 5 for 25 students
4. Ask for Marks and check if entered mark is between 0 and 100 append marks in arrayMarks and move on to next student's input otherwise do 3
5. Display the error message 'Number should be between 0', allow re-entry for invalid marks go to 4
6. Display Unit and Marks of students.
7. Initialize high value to 0 and low value to 100
8. Repeat step 9,10 for every element in arrayMarks
9. Check if selected element is greater high value than in arrayMarks change the high value with element value
10. Check if selected element is smaller than low value in arrayMarks change the low value with element of array
11. Display highest marks as high value and lowest marks as low value
12. End

Pseudocode of highest and lowest marks

1. Ask for Unit name
2. let student = 0,
3. let arrayMarks[25];
4. While (student<25)
 - a. Ask for marks
 - b. If marks > 100 Or marks < 0 then
 - c. Display error "Invalid Marks, it should be between 0 and 100"
 - d. Re-enter the marks Go to 3.a.
 - e. Else
 - f. arrayMarks[i] = marks
5. Let high_value = 0, low_value = 100
6. For (int i=0;i<sizeof(arrayMarks);i++)
7. If (arrayMarks[i]>high_value) then
8. high_value = arrayMarks[i]
9. If (arrayMarks[i]<low_value) then
10. low_value = arrayMarks[i]
11. Endfor
12. Display highest marks as high_value and lowest marks as low_value
13. End

Algorithm of Mean and Standard Deviation of marks

1. Ask for Unit name
2. Declare arrayMarks variable
3. Repeat 4 and 5 for 25 students
4. Ask for Marks and check if entered mark is between 0 and 100 then append marks in arrayMarks moves on to the next student's input
5. Else display the error message 'Number should be between 0', allow re-entry for invalid marks go to 4
6. Display Unit and Marks of students.
7. Declare sum,mean,sumOfsquare,meanDiffsquareArray,standardDeviation
8. Repeat step 9 for every element in arrayMarks
9. Calculate sum using each arrayMarks element and update value of sum
10. Calculate mean by dividing sum by 25.
11. Repeat step 12,13 for every element in arrayMarks
12. Calculate mean Differential square and append in meanDiffsquareArray
13. Calculate sum of square with meanDiffsquareArray's each element value and update sumOfsquare value
14. Calculate standardDeviation by dividing sumOfsquare by 25 and square root the resulting value.
15. Display mean,standardDeviation
16. End

Pseudocode of Mean and Standard Deviation

1. Ask for Unit name
2. let student = 0
3. let arrayMarks[25];
4. While (student<25)
 - a. Ask for marks
 - b. If marks > 100 Or marks < 0 then
 - c. Display error "Invalid Marks, it should be between 0 and 100"
 - d. Re-enter the marks Go to 3.a.
 - e. Else
 - f. arrayMarks[i] = marks
5. Print Unit name and arrayMarks
6. Let sum,mean,sumOfsquare,meanDiffsquareArray,standardDeviation
7. For(int i=0;i<25;i++)
8. Calculate sum += arrayMarks[i]
9. Endfor
10. Calcualte mean = sum/25;
11. For (int i=0;i<25;i++)

12. Calculate mean differential square of for each element in array as
 $\text{meanDiffsquare}[i] += (\text{marks}[i] - \text{mean})^2$
13. Calcualte sum of square as $\text{sumOfsquare} += \text{meanDiffsquare}[i]$
14. Endfor
15. Calculate standard deviation as $\text{standardDeviation} = \text{Math.sqrt}(\text{sumOfsquare}/25)$
16. Display mean and standardDeviation
17. end