Sample Task 1:

Problem Description: Write a program that reads in 8 numbers and prints their mean, median and standard deviation.

Procedure: Try to write the C code by using basic arithmetic operations. Try to understand the problem by seeing the sample input/output given below.

Sample Input:
Insert numbers: 3 4 5 6 8 13 11 19
Sample Output:
The mean is : 8.625 The median is : 7

The standard deviation is : 5.4231646006473

Hint: formula for standard deviation is

$$s = \sqrt{\frac{1}{N-1}\sum_{i=1}^{N}(x_i - \bar{x})^2},$$

$$s^2 = \frac{\Sigma(x_i - \bar{x})^2}{N-1}$$

Sample Task 2:

Problem Description: Convert Celsius to Fahrenheit unit. Take the value of C as input from user and calculate the value of F.

Procedure: Try to write the C code by using basic arithmetic operations. Try to understand the problem by seeing the sample input/output given below.

Sample Input:
Insert numbers: Enter the Celsius value: 32
Sample Output:
The Fahrenheit value is: 89.6

Hint: F= C * (9/5) + 32

Lab Assignment:

Problem Description: Write a program that will prompt the user for two integers a and b. Then swap (interchange) the values of a and b. That means, a should get the value of b and b should get the value of a.

Sample Input:
Enter a: 7 Enter b: 3
Sample Output:
After swapping, a: 3 and b: 7

Result and Discussion:

After solving these problems if sample input/output and other test cases are accurate, then the students have already solved these problems perfectly. Then the students should solve related problems in different online judges like UVa, URi, Lightoj online judges to learn problem solving and develop their programming skills and continue programming learning process.

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Conclusion:
The students have learned how to write C program and solve problems using arithmetic operations and different data types.

References:
1. Reference book.
2. Online sources of learning programming like geeksforgeeks, javatpoint, w3school etc. websites.
3. Online judges to practice solving related problems i.e.: UVa, URi, Lightoj online judges.