

ECE 152 Programming for Engineers
Laboratory 5

NOTE:

- Please submit only C++ source files (*.cpp) to Blackboard.
- Please put your name, project description, and date on the top of your file as a comment.
- PLEASE WORK ALONE. If cheating is found, you will get ZERO.

1. (Lastname_Lab4_p1.cpp) Write a program that continuously requests a grade to be entered. If the grade is less than 0 or greater than 100, your program should print an appropriate message informing the user that an invalid grade has been entered; otherwise, the grade should be added to a total. When a grade of 999 is entered, the program should exit the repetition loop and compute and display the average of the valid grades entered. Verify the program using appropriate test data.

2. (Lastname_Lab4_p2a.cpp) a) A bowling team consists of five players. Each player bowls three games. Write a program that uses a nested loop to enter each player's individual scores and then computes and displays the average score for each bowler. Assume that each bowler has the following scores:

1 st bowler:	286	252	265
2 nd bowler:	212	186	215
3 rd bowler:	252	232	216
4 th bowler:	192	201	235
5 th bowler:	186	236	272

(Lastname_Lab4_p2b.cpp) b) Modify the program to calculate and display the average team score.

3. (Lastname_Lab4_p3.cpp) A bookstore summarizes its monthly transactions by keeping the following information for each book in stock:

Book identification number
Inventory balance at the beginning of the month
Number of copies received during the month
Number of copies sold during the month

Write a program that accepts this data for each book and then displays the book identification number and an updated book inventory balance using the relationship

New balance = Inventory balance at the beginning of the month
+ Number of copies received during the month
- Number of copies sold during the month

Your program should keep requesting and display results until a sentinel identification value of 999 is entered.

4. (Lastname_Lab4_p4.cpp)

- a) Write a function named `check()` that has three arguments. The first argument should accept an integer number, the second argument a double precision number and the third argument a double precision number. The body of the function should just display the values of the data passed to the function when it is called. (Note: When tracking errors in functions, it is helpful to have the function display the values it has been passed.)
- b) Include the function `check()` in a working program. Make sure your function is called from `main()`. Test the function by passing various data to it.

5. (Lastname_Lab4_p5.cpp)

- a) Write a function named `findAbs()` that accepts a double precision number passed to it, computes its absolute value, and display the absolute value. The absolute value of a number is the number itself if the number is positive or zero and is negative of the number if the number is negative.
- b) Include the function `findAbs()` in a working program. Make sure your function is called from `main()`. Test the function by passing various data to it.