Lab 2: Length converter **Due:** 9/11/24

Problem: You are asked to write a program to receive a length expressed in feet, convert it to yards, and show the result on the screen.
The formula for converting a length expressed in feet to yards is:

length in yards = 1/3 x length in feet

Your solution must ask the user to enter the length in feet at the keyboard and then calculate and display the resulting length in yards.

Your task: implement in C++ the algorithm solution shown below.

Algorithm solution (in pseudocode):

To solve this problem your program must perform the following tasks:

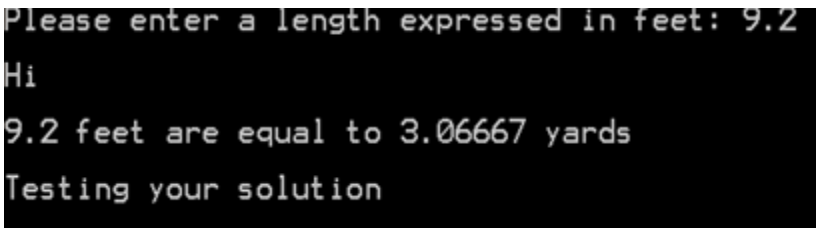
// Declare variables called **len_feet** and **len_yards** that hold double precision real numbers.
// Prompt the user to enter the length in feet.
// Get the length from the keyboard and store it in the corresponding variable.
// Calculate the length in yards using the formula exactly as provided above and assign the result to the corresponding variable.
// Display on the screen the following message:
// "Hi"
//
// len_feet, " feet are equal to ", len_yards, " yards

The program must compile without errors or warnings.

Open **lab02.cpp** in your IDE and implement the above algorithm (already provided in the source code as comments).

Note:

- Do NOT remove or modify the statements that I use to test certain things in your program.
- Carefully analyze the following figure and use it as a reference to ensure you do the right things. This is a screenshot of running my solution.
- Run your solution and compare it with mine to ensure they produce the same outputs.



IMPORTANT: this lab requires you to use the tools I taught so far so review your class notes and read the textbook. Look at the examples used in my lectures.

All assignments assigned throughout the semester will require you to use the concepts learned in lectures. Thus, get used to read the textbook, slides, and class notes and to review my program examples before the labs in order to be well prepared to complete the assignments on time. If you have concerns or specific questions, post them on the Discussion Board of Blackboard.

Don't forget to include at the top of the program the comments shown below with your information (name, class and section number, etc.)

```
//////////////////////////////////////////////////////////////////////
//
// Name: <Put your name here>
// Date: <Today's date>
// Class: <Your class number and section number, like: CSCI 1470.02>
// Semester: <This semester, like: Fall 2020>
// CSCI/CMPE 1470 Instructor: <Your lecture instructor's name>
//
// Program Name: Length converter
// Program Description:
//
//////////////////////////////////////////////////////////////////////
```

When done, submit your solution through Blackboard using the "Assignments" tool. Do Not email it.

Paste the link to your final solution along with your source code in the textbox opened when you click on Create Submission before you click on Submit.
The following is the basic criteria to be used to grade your submission:

-5: Minor mistakes
Missing comments at the top of the program
No comments or too few comments in source code
-10: Moderate mistakes
Wrong variable names
Wrong variable types
Wrong input format
Wrong output format
-20: Major mistakes
Program does not implement the algorithm provided
Incorrect/missing source code
Incorrect/missing link to your solution
- 50:Program does not compile
-100: The code submitted is not your creation (you got it from a web site or another person)
-10: Late

Important: more points may be lost for other reasons not specified here.

Try these other values 9, 9.6, 11, 11.25, and 12.25 and compare your results with mine.

```
Please enter a length expressed in feet: 9

Hi

9 feet are equal to 3 yards

Testing your solution


------------------------------------------------

Please enter a length expressed in feet: 9.6

Hi

9.6 feet are equal to 3.2 yards

Testing your solution


------------------------------------------------

Please enter a length expressed in feet: 11

Hi

11 feet are equal to 3.66667 yards

Testing your solution


------------------------------------------------

Please enter a length expressed in feet: 11.25

Hi

11.25 feet are equal to 3.75 yards

Testing your solution


------------------------------------------------

Please enter a length expressed in feet: 12.25

Hi

12.25 feet are equal to 4.08333 yards

Testing your solution
```