Due:

Design with oracle**:** Friday January 30, beginning of class

Implementation: Friday February 6, beginning of class

Description:

A painting company has determined that for every 115 square feet of wall space, one gallon of paint and 8 hours of labor will be required. Additionally, for every 130 square feet of ceiling space, one gallon of paint and 6 hours of labor will be required. The company charges $20.00 per hour for labor.

Write a program that asks the user to enter the dimensions of the room (i.e., length, width, and ceiling height), the price of the wall paint per gallon, and the price of the ceiling paint per gallon. Your program should assume that the room is a box so you do not need to worry about window or door cutouts.

Since a homeowner might want to consider painting only the walls or ceiling, your program should display the information about the walls and ceiling separately. It should print:

- The number of gallons of wall paint required
- The hours of labor required for painting the walls
- The cost of the wall paint
- The labor charge for painting the walls
- The total cost of painting just the walls
- The number of gallons of ceiling paint required
- The hours of labor required for painting the ceiling
- The cost of the ceiling paint
- The labor charge for painting the ceiling
- The total cost of painting just the ceiling
- The total cost of painting both the walls and the ceiling

Evaluation:

Your solution (design and implementation) will be evaluated using the following criteria.

Program design	Completeness, accuracy, and clarity
Program correctness	Correct translation of input to output Output properly formatted Terminates correctly
Program formatting	Proper indentation Use of white space around operators Use of blanks lines where appropriate
Identifier naming	Names are meaningful
Commenting	Introductory comment: Author, Purpose, Input, Output Useful comments in the code
Files	Correct filenames for submission (see below)

Submit:

Design: Email the Word file containing your design to sgray@wooster.edu. Your name should appear *both* in the filename *and* within the file (at the top). The file should be named as follows: *last name*_p1.docx. For example, I would send a file named Gray_p1.docx.

Implementation: Email your solution (a .c file) to sgray@wooster.edu. The file should be named as follows: *Last name*_p1.c. For example, I would send a file named Gray_p1.c. Note that it is *G*ray_p1.c and not *g*ray_p1.c.

Academic Integrity:

Cheating or academic dishonesty includes turning in another person's work as your own, copying from a source without proper citation, making your solution available to others, and lying in connection with your academic work.

In writing your C programs it is fine to talk with one another about aspects of the language (syntax and semantics). What you are ***not*** allowed to do is share any part of your solution.

If you're not sure whether something is allowed, check with me before you do it. Also be careful not to leave your files on public computers, even in the Trash.

The Wooster Ethic (http://www.wooster.edu/students/dean/ethic/)

I hereby join this community with a commitment to the Wooster Ethic upholding academic and personal integrity and a culture of honesty and trust in all my academic endeavors, social interactions, and official business of the College. I will submit only my own original work, and respect others and their property. I will not support by my actions or inactions the dishonest acts of others.