

Homework # 3

Due: Monday Jul 17, 2017 at 5 pm

Part I: Practice and Theory

1. Practice Problems: P3.1, P3.3, P3.4, P3.8, P3.10, P3.13 (not collected)
2. Chapter 3 Quiz (10 points). Only one attempt allowed and time limit is 60 min.

Part II : Programming

3. Coding Exercise (40 points).

Write a program following the instructions below. Submit the source code to *ccl.e.ucla.edu*. The code should include header comments as in previous homeworks. Compile and run your program to make sure it works. In addition, you will be graded on good coding practices.

Instructions: Suppose you want to change the floors of your rectangular living room and put up a fence around a square-shaped back yard so that it is three times the size of the living room, using the back wall of the house as one side. You want to compute the amount of materials needed and the total cost using user-input measurements for the living room. Implement a program that, given a specific budget, also determines whether or not the project is possible.

Start the program by asking your total budget and measurements for the living room.

*** Home Remodeling ***

Budget =

Living Room Width (feet) =

Living Room Length (feet) =

Continue by computing the following:

- The amount of flooring needed for the living room.
- The amount of fence needed for the back yard.
- The cost, using flooring price of \$ 3.79 per square feet and a fence cost of \$18 per foot.
- Check if the total cost satisfies the budget. If the total cost is not within budget but it is enough to replace the living room floors, then show different back yard sizes by changing the side in increments of 5 feet while the total cost is within budget. Otherwise, output:

```

* * * * *
* SORRY, YOUR BUDGET IS NOT ENOUGH. *
* * * * *

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Unless there is not enough budget, your program should output the amount of material needed (in units of feet and square feet) as well as the corresponding total cost of the project (showing dollars and cents). The different possible outputs are shown in Figure 1.

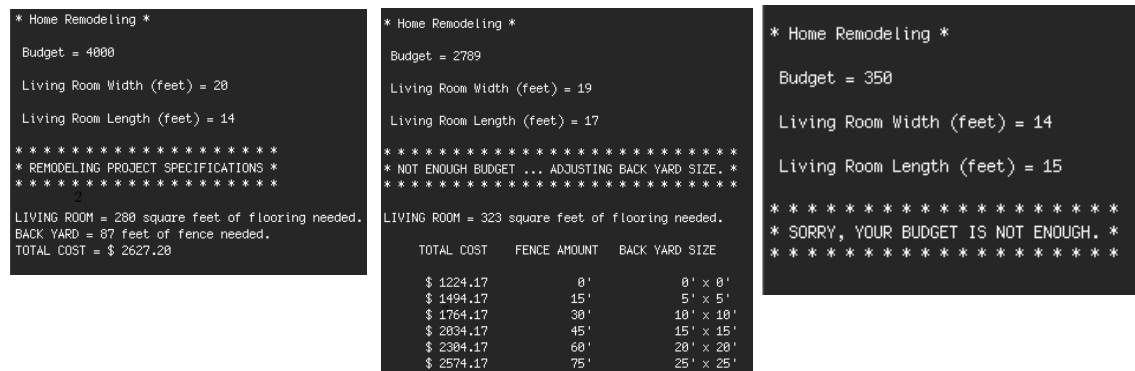


Figure 1: Hmw3 sample outputs for different inputs