

COP2221 – Intermediate C++ Programming

Module #3 Assignment One

15 points – 10 points for your program and 5 points for your design document

This assignment refers to **Learning Outcome #1**: Design, develop and debug modular computer programs. Your program requires **input validation** and **formatted** output.

NOTE: If you want to review functions – here is a good video: <https://www.youtube.com/watch?v=3pAWJ40I1QE>

You have been hired to write a **menu-driven** program for the Doggie Daycare Corporation. The corporation makes “doggie condos”. Doggie condos are protected areas that allow dogs to enjoy being outside while they remain protected and unable to run away.

The client wants the program to begin with an opening screen showing the company name and motto (you can make this up). The opening screen will also display a short message indicating the purpose of the program.

The program is menu-driven meaning that the user will be given a menu of program options. Refer to **Section 6.6 (Functions on Software Engineering...)** in your textbook to review the features/design of a menu-driven program that uses functions to implement needed logic. Your menu will display the three doggie condo purchase options: 1) Model S (two “rooms” for dogs to use); 2) Model M (4 “rooms” for dogs to use); and 3) Model L (7 “rooms” for dogs to use).

The **base cost** of each model is:

- Model S - \$950
- Model M - \$1075
- Model L - \$1325

Once a user selects the model he/she wishes to purchase, you need to give the user the option to add options for the doggie condo. Options are:

- Condo cover – add 15% of **base** cost to total purchase cost
- Climbing stairs – add 10% of **base** cost to total purchase cost

Tax is 8% based upon the model + any options.

Shipping is \$25 for **all** purchases.

The client wants a nicely formatted bill displayed. The bill should be itemized & formatted with 2 places to the right of the decimal point for any financial values. Display the cost for: base price, cost of each add-on, tax, shipping and total bill.

After the user's bill is displayed, follow up with a "thank-you" screen from the Doggie Daycare Corporation – display contact information for the company (make it up).

Create the program so that it generates as many bills as needed (set up the program for repetition) – Program 6-10 shows a user-driven do...while loop – good choice!

The entire program design is up to you – your program should be user-friendly, efficient and accurate.

Never hesitate to ask for help or clarification.

1. **NOTE:** all **good** programmers create a design document to outline the creation of the logic/program – be sure to sketch out a design before coding! You will need to **SUBMIT** your **design document** for this program – it doesn't need to be formal but If you don't start planning your code – you'll not be a good programmer. You may submit as a Word document or take a photo of something less formal – but I need a design document! Create your design **BEFORE** writing code – your design document does **not** need to be identical to your code – we often make changes as the coding progresses so do not update your original design document to match your final program.
2. Refer to the grading rubric supplied via Canvas in this module area before submitting your code
3. Using the submission links for this assignment – upload your design document **and** your .cpp file