

# Programming Project Report

Name: Cameron Eddy

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**Academic Integrity Statement:** I pledge that I have neither given nor received unauthorized help on this programming assignment.

## Problem Statement:

The goal of this programming assignment was to gain more experience with classes in C++. The program inputs involved a menu where users could choose from one of six options for the doggy daycare. Some other inputs were included within some of the options, including what energy level to search for and even inputting all the information for a new dog in one case. The program outputs included letting the user know what dogs were in the doggy daycare at that moment, what dogs had similar energy levels to other dogs, etc. Error handling was needed on all inputs to make sure the inputs were reasonable and could include things such as spaces.

## Design:

For the design, I used a switch statement for dealing with menu input for the user. The con of this was that it wasn't possible to initialize variables in the switch statement so I had to export all the options into functions outside of the switch statement. This made the code look cleaner, so it was fine. No data structures or algorithms were needed. One other thing I added that I'm not sure if I needed to was an error check in the first function so it didn't load any dogs in the place of other dogs. If you run the dog menu with input 2, type a dog, and then run input 1, the dog you inputted originally won't get replaced.

## Implementation:

I started with the dogs.txt file and then I had to create everything else. I spent the first day of the project creating my skeleton methods for the class and then testing them. This worked well so I moved on to reading the input file and getting the first menu option to work properly. I finished the rest of it today. It took me about 10 hours combined over the three days to finish it all.

## Testing:

The testing I did was just to make sure the inputs didn't allow anything crazy. For the breed and name input, I checked to make sure what was being inputted could be a string that handled spaces without breaking the program. For the size, age, and energy level, I made sure all of the values were in the range I set which included ages and sizes possible for dogs that have existed and an energy level between 1-10. I also tested to make sure when a user searched for an energy level their input was in between 1-10. Finally, I checked to see if the user input a menu option not between 1-6. If they did, they were reprompted.

**Conclusions:**

The result of this assignment was a success. I'm not sure how much error checking was required beyond what was explicitly stated so I would be curious to know about that in the future because I spent a significant amount of time working on that. The project took me 10 hours in all to complete.