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CS 161

Assignment 9

Understanding

This week's focus was on the usage of classes. The first exercise focus was to teach us how to use classes. We used two classes; one to get the points of coordinates and one to determine the slope. The second exercise was a repeat of last week's assignment but using classes and the use of a vector. The project was also a repeat of last week's project as well instead of classes. This week's project used 3 classes while last weeks project used 2 structs.

Design

- 1) Add headers and make classes
 - a. Make three classes: Date, Car, CarLot
- 2) Make class members
 - a. Date
 - i. Year, month, day
 - b. Car
 - i. Make, model, year, datePurchased, purchasedPrice, isSold, dateSold, salePrice
 - c. CarLot
 - i. Vector<car>
- 3) Make constructor and destructor for classes
- 4) Make constructor and mutater prototypes for members
 - a. Make for date class
 - b. Make for car class
 - c. Make for Car lot class
- 5) Make functions
 - a. For adding cars
 - b. Car inventory
 - c. Monthly profit
 - d. Valid day input
 - e. Valid month input
- 6) Make two car objects, make carLot object, make menu input integer
 - a. Make while loop that breaks if input is 4
 - i. Make switch
 - ii. Call add car function
 - iii. Call car inventory function
 - iv. Call monthly profit function
 - v. Out message
- 7) Make constructors and mutators for classes.
 - a. For get functions, return input

- b. For set functions, make member equal input
 - c. for getProfit
 - i. have it get total of sale price minus purchase price
 - ii. use NAN to determine non number
 - d. for addCar in CarLot
 - i. push back the car
 - e. for listCurrentInv in CarLot
 - i. make integer to count number of sold cars
 - ii. make for loop
 - iii. make if statement for non-sold cars
 - iv. print out car information
 - v. print out number of cars in inventory
 - f. for getMonthProfit in CarLot
 - i. make total double
 - ii. make for loop
 - iii. make if statement for specific month and year
- 8) addCarEntry function
- a. make char input, string input, year, month and day input and purchase and sell input integers
 - b. make while loop that breaks with quit
 - c. make for loop
 - d. get make input
 - i. make if statement to break if user inputs quit
 - ii. set make
 - e. get model input
 - i. set model
 - f. get year, month and day
 - i. set date of purchase
 - g. get purchase price
 - i. set purchase price
 - h. get sold input
 - i. make if statement for yes input
 - i. get year, month and date
 - ii. set date
 - j. get sale price
 - i. set sale price
 - k. else
 - i. set second car object is Sold to false
 - ii. add to vector
- 9) profit of Month function
- a. Make while loop
 - b. Get month and year input
 - c. Pass into getMonthProfit class function
- 10) Valid day input

- a. Get day input
 - b. Make if statements for every month and add in conditions for month specific number of days
- 11) Valid month input
- a. Make while loop
 - b. Make if statement
 - c. Make condition from 1 to 12

Testing

Prompt	Input	Expected Output	Actual output
Good input for month	12	12	12
Bad input for month	13	Invalid input	Invalid input
Good input for day for February	28	28	28
Bad input for day for February	30	Invalid input	Invalid input
To quit	Quit	Go to menu	Go to menu
IsSold = true	Y	What year was the car sold in?	What year was the car sold in?
isSold=false	N	What model is the car	What model is the car
Check inventory	2	Display cars and tell how many cars are in inventory	Display cars and tell how many cars are in inventory
Check profit	Month 2, year 2010	Total profit is \$5000.00	Total profit is \$5000.00
Check profit with no year	Month 2, year 2011	Total profit is \$0.00	Total profit is \$0.00

Reflection

Most of the trouble this week came with the second exercise when I had to set the date for the user's input on the purchase date and sale date. I kept thinking that I had to set the month, day or year to the date. I soon realized I never made an object for my item class. Once I created the object, it solved my problem. In the carLot2 project, I ran into trouble printing the correct cars(sold vs not sold). After reading through my code, I noticed I never made two objects; one for sold cars and not sold cars. Once I re-wrote my code, it started printing correctly. When I was going through my code and debugging it, I noticed the model name's first letter kept getting cut off. It ended up being cin.ignore was added in a twice. Deleting it solved the problem.