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Project Three

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CS-210

Corner Grocer Data Viewer

The Grocery Data Interface program is a C++ application designed to manage grocery data efficiently. It comprises three essential classes: MainMenu, DataHandler, and main. The MainMenu class oversees the program's user interface, displaying menu options and processing user inputs. The DataHandler class is responsible for reading the data, creating a backup, and formatting the data into a map for use within MainMenu.

A screen shot of a computer code

Description automatically generatedThe DataHandler class takes charge of reading, storing, and writing grocery data. Its pivotal method is readData, which can be seen in the screenshot, it is the main handler in this class. It is responsible for storing the data in a vector so we can move the data to a functional form in storeData, create a backup in writeData, and return the map to main. The first function the vector is passed to is writeData as it is responsible for creating a back up of the read file in “frequency.dat”. The second function it is passed to is storeData, this function stores the data into a map so we can more easily process the information in MainMenu class.

Once the map for the data is written it is passed into the MainMenu class. The MainMenu class oversees the program's user interface, displaying menu options and processing user inputs. The main handler for this class is handleInput, which can be seen in the screenshot, as it is the crossroads for all user input. Given that the user chooses option one to search for a specific item the handleInput function will send users A computer screen shot of a program

Description automatically generatedto the search function. The search function will accept user input and return the item name and count if the item is found within the map of data. The input is sanitized so that input should return if the item is spelled correctly, it also has a feature to suggest a possible item if the spelling is incorrect. If option two is picked the handleInput function carries out printNumerical which carries out the printing of all items in the map with three associated counts from data. If option three is chosen print Histogram is carried out which prints a makeshift histogram of the items from the data. A notable function within this class is printMenu, which is used to print all menu options for the user.

A computer screen shot of a program code

Description automatically generatedIn the main function, the program starts by initializing an empty map named t\_foodData. It then employs DataHandler().ReadData() to read, sort, create a backup of the data, and return a map of the sorted data. Subsequently, it enters a menu loop, which can be seen in the screenshot, where it prompts the user for input and displays their options. It allows users to select options (1, 2, 3, or 4) input is validated to be an integer before being sent to the switch statement in MainMenu, furthermore if the option is 4 main returns closing the program.