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CS150
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Description of Project 2

The goal of this project is to help identify and develop effective advertising outlets for the Eastons Farmers Market, especially the vendors who sell their goods at the market. This project will be able to provide information about people and their individual interests as well as cities and the interests of those cities. This project will be able to determine where advertising outlets can be used most effectively.

This program will read in a test file of city names where each lines is the name of a city. The customers will be created an average time of 61 seconds with a standard deviation of 31 seconds. When the customers are created, each will get a list of needs. This list of needs will be created the same way it was created in the last lab, based on percentages of customers who want a certain good. For example, vendors such as vegetables, fruits and meat are more popular than other vendors. After the customers are created and assigned a list of needs, they are randomly placed in the cities from the text file. This is where the project gets interesting! The project will have inputs that the user can put into the console that will update, modify and query the data in the program. The command “init” will tell the program to read the text file and store the cities properly. The “run<n>” command will run the simulation n number of times and add the data from the simulation to the data containers implemented. These data containers are where all the information is going to be extracted. The “clear” command clears all the data from the simulation from the containers. The “list” command will take read the input city and the input good or goods and return a list of customers within those cities who have purchases those goods. The “findgoods” command will read the input city and return a list of goods in order of most purchased to least purchased from the customers in the cities. The “findcities” command does the same thing but with cities. The “add” command allows the user to add another city to the advertising firm or to add another item to sell. These commands can be accomplished by implementing a Scanner object that asks the user questions and based on the users respond, returns the appropriate information from the data containers back to the user. The list of needs will be generated as an Array List, that is where the needs were stored in the last project. The customers can be put into a HashMap which will act like a city. When a certain command is needed, the information from the Hashmaps can come together and be organized into a TreeMap.

This project essentially creates a search engine for Easton Farmers Market. The advertising outlets can help the vendors decide which city to go to to sell their items. This program will return which cities the customers buy more dairy in and then the dairy vendors know to go to those cities to sell their items. It is a run and search. The correct implementation of the data structures is key to this project – certain data structures have advantages over others and putting them within each other can create a powerful structure that can store a lot of information while still having a fast time performance.