**Corner Grocer Item-Tracking Program**

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**Introduction**

The Corner Grocer Item-Tracking Program is designed to help the Corner Grocer analyze and track the frequency of items purchased throughout the day. This program reads a list of items from a text file, calculates the frequency of each item, and outputs the results in both a list format and a histogram. Additionally, the program automatically generates an output file, frequency.dat, that records the frequency of all items at the beginning of the program.

**Design and Functionality**

The program is composed of two main classes: ItemTracker and Menu, which are used by the main function.

**ItemTracker Class:**  
The ItemTracker class is responsible for managing the data related to the items purchased. It stores items in a vector and provides methods to analyze and output this data. Key methods include:

* readFromFile: Reads items from a specified file and normalizes their format.
* searchItem: Searches for a specific item and returns its frequency.
* printFrequency: Prints the frequency of all unique items.
* printHistogram: Prints a histogram representing the frequency of items.
* printToOutputFile: Writes the frequency of all unique items to the frequency.dat file.

**Menu Class:**  
The Menu class handles user interaction, providing options to search for an item, print the frequency of all items, print a histogram, and exit the program. The class methods include:

* loadItems: Loads items from the user-specified file into ItemTracker.
* saveDataToFile: Automatically saves the frequency data to frequency.dat.
* executeChoice: Executes the appropriate action based on the user’s menu selection.

**Main Function:**  
The main function initializes the Menu class, prompts the user for the input file, and loads the data into the program. It then automatically creates the frequency.dat backup file before entering a loop to handle user interaction. The program continues to run until the user chooses to exit.

**File Handling**

The program reads from an input file specified by the user, typically containing a list of items purchased throughout the day. It processes this data to calculate the frequency of each item and then writes this frequency data to the frequency.dat file. This file is generated at the beginning of the program and serves as a backup, ensuring that the frequency data is saved without user intervention.

**Screenshots**

1. **Data Loading and Backup Creation**  
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2. **Item Frequency Search**  
   *A screenshot of a computer error

   Description automatically generated*
3. **Frequency List and Histogram Output**  
   *A screenshot of a computer

   Description automatically generated***A screen shot of a computer

   Description automatically generated**

**Conclusion**

The Corner Grocer Item-Tracking Program successfully meets the requirements by providing accurate tracking of item frequencies and automatic backup creation. The program is designed to be user-friendly, efficient, and reliable, ensuring that the Corner Grocer can optimize their product layout based on purchase data.