# Design:

The program uses a class named GroceryTracker that is responsible for tracking grocery items and their purchase frequencies.

# Key components:

## Private Data Member:

**itemFrequency:** A map that keeps track of each item (as a string) and its frequency (as an integer).

## Private Utility Function:

**formatItem():** Formats the input item string such that the first letter is uppercase and the rest are lowercase.

## Public Member Functions:

**loadDataFromFile():** Reads data from an input file and populates the itemFrequency map.

**saveDataToBackup():** Saves the data in itemFrequency to an output file named frequency.dat.

**getFrequencyForItem():** Returns the frequency of a specified item.

**displayAllFrequencies():** Displays the frequency of all items.

**displayHistogram():** Displays a histogram representation of the items' frequencies.

# Functionality:

When the program starts, it reads the items from an input file and counts the frequency of each item. The frequencies are then saved to a backup file named frequency.dat.

The user is presented with a menu where they can choose to:

**Search for an item's frequency:** The user can input the name of an item (case-insensitive), and the program will display how many times that item was purchased.

**Display frequencies of all items:** Lists all items and their purchase frequencies.

**Display histogram:** Displays a histogram representation where each item is represented by a line of asterisks corresponding to its frequency.

**Exit**: Exits the program.

# Screenshots:

| Main Menu: | Search for an item's frequency: |
| --- | --- |
|  |  |
| Display frequencies: | Histogram Display: |
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