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### Program Overview

The Grocery Tracker Application reads an input file containing a list of grocery items and counts how many times each item appears. The program enables the user to search for specific items, view all item frequencies, print a text-based histogram showing the frequency of each product, and exit the program. This project demonstrates the following: file input/output, data structures, and modular program design using C++.

### Design Overview

The program is organized into three main components:

1. **GroceryTracker Class (GroceryTracker.h / .cpp)** - Handles business logic and data storage.
   1. Loads the grocery list, normalizes input, and counts item frequencies.
   2. Supports printing all items, generating histograms, and writing a backup file.
2. **Menu Module (Menu.h / .cpp)** - Contains helper functions for validated user input.
   1. Keeps main.cpp clean and focused on program flow.
3. **main.cpp**
   1. Constructs the GroceryTracker object and manages the application workflow.
   2. Responds to user input and directs program flow via a switch-based menu.

### Functionality and Flow

1. On startup, the program loads the grocery list from a text file.
2. The user selects menu options to search for items, view all frequencies, or print a histogram.
3. Input validation ensures users can only select valid options.
4. When the program exits, it writes results to a backup file (frequency.dat).

### Screenshots

Screenshot of Solution Explorer showing C++ Project folder and file structure.


Figure : Screenshot of Solution Explore for Grocery App

A screenshot of the Menu System for the Grocer Application.


Figure : Screenshot of Initial Menu System

Screenshot of Printed Histogram result and Menu for Program.


Figure : Screenshot of Printed Histogram from provided text file and Menu System

### Citations & References:

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