# Corner Grocer Item Tracker Documentation

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## Program Overview

The Corner Grocer Item Tracker is a C++ console application developed for Chada Tech to help the Corner Grocer analyze daily purchase records. The program reads a text file containing a list of purchased grocery items and determines how frequently each item appears. Using these frequencies, the store can redesign its produce section based on purchasing trends.

## Program Design

The program’s architecture centers around a class named ItemTracker, which encapsulates all file input/output operations, data processing, and reporting functionality. The class maintains a map<string, int> data structure that efficiently stores each unique item name as a key and its purchase frequency as a value.  
  
When the program starts, it reads the file CS210\_Project\_Three\_Input\_File.txt and populates the map. It then automatically writes a backup file named frequency.dat to preserve the frequency data for later use.  
  
A menu-driven interface in main.cpp allows users to:  
1. Search for an item and view its purchase frequency.  
2. Display all items and their frequencies in a clean list format.  
3. Display a histogram that visually represents item frequencies with asterisks.  
4. Exit the program.  
  
Input validation ensures users enter valid numerical options, and descriptive error messages guide them when incorrect input is provided.

## Functionality Summary

- File Handling: Uses file streams (ifstream and ofstream) to read and write data.  
- Data Storage: Uses the C++ Standard Library map for dynamic item counting.  
- Backup Creation: Automatically writes frequency.dat to back up all frequency data.  
- Histogram Display: Outputs each item name followed by asterisks representing quantity.  
- Object-Oriented Design: Separates logic into a reusable ItemTracker class with public and private members.

## Screenshots

A screenshot of a computer

AI-generated content may be incorrect.

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