Homework 1 Report

For Homework 1, I wrote a C++ program that reads the Baa corporate bond yield data directly from the provided CSV file without any manual changes. The program first loads the header row to automatically detect the date and rate columns, then parses the file into two vectors containing dates and corresponding rates. It computes the overall average of the dataset and allows the user to enter dates in the yyyy-mm format. For each query, the program either displays the correct rate along with the dataset average and the difference, or it shows a message that the date is not found in the data. The program continues prompting until the user signals end-of-file (Ctrl-D on macOS/Linux or Ctrl-Z on Windows). It handles missing values, bad input, and empty queries without crashing, and it compiles and runs cleanly from the terminal. Below is a screenshot showing the program in use with both valid and invalid date queries.

```
→  ISyE6767_HW1 git:(main) ✗ ./hw1
Data loaded: 1136 rows.
Enter dates in yyyy-mm (EOF to quit). Example: 2010-07

Date> 2025-08
Date 2025-08 not found in data. Please try another date.

Date> 2010-07
Baa rate for 2010-07 = 6.0100%
Average rate across dataset = 7.0461%
Difference (date - average) = -1.0361 percentage points

Date> 1919-11
Baa rate for 1919-11 = 7.5400%
Average rate across dataset = 7.0461%
Difference (date - average) = 0.4939 percentage points

Date> ^D
Goodbye.
```