COSC 2436: Hash Map

1. Introduction

Create a C++ program that utilizes a hash map to store a document's word frequency. Feel free to use any standard C++ library including <map>

2. Description

In an attempt to find a secret informant, your company began temporarily sending two types of emails to their employees: one containing false fabricated information and the other with true information. You are tasked to create a program that validates if an email is true based on the frequency of strings used.

- Email is **FALSE** if the frequency of each word is equal to 1.
- Email is **TRUE** for every other case
- Additionally:
    - The greeting line ("Dear _____") is to be ignored when counting word frequency.
    - Ignore periods, commas, exclamation marks, question marks, and quotations

3. Input Files

- Each input file will represent your email inbox.
- Each email will always start with the greeting "Dear *name*,"
- The email body will never start with "Dear"
- A blank line will separate each email.
- There will be no empty files.
- Remove all \n and \r

4. Output Files

For each email, you will either output "True" or "False" along with additional information.

- If the email contains true information, output "True" and the frequency of each word in lowercase and alphabetical order.
- If the email is fabricated, output "False"

5. Examples

input1.txt	output1.txt
Dear Prof. X, The chairman has been fired.	False

input2.txt	output2.txt
Dear Chairman Y, I see… I hired new programmers.	True hired: 1 i: 2 new: 1 programmers: 1 see: 1

input3.txt	output3.txt
Dear Jon Jones, Will “Jon Jr.” be attending? The Boss arrives Wednesday. Dear Ms. Wednesday, When will the shipment arrive? I will be free to pick it up. Dear CFO Adesanya, Our stocks have plummeted! Dear Mom,	False True arrive: 1 be: 1 free: 1 i: 1 it: 1 pick: 1 shipment: 1 the: 1 to: 1 up: 1 when: 1 will: 2 False False

6. Submitting

- Turn in your lab assignment to our Linux server
- Make sure to only have 1 .cpp file with the main() function in your working directory, otherwise your program will fail the grading script.
    - Create a folder name **lab5** (case sensitive) under your root directory
    - Make sure your .cpp and .h are **lowercase and have no spaces**.
    - Upload your program and ArgumentManager.h
    - **ONLY INCLUDE NECESSARY FILES** (.cpp and .h files) in your final submission
- To test your program, copy the input files into the server and run your program. After verifying that they pass, delete ALL .txt files.

Please reach out to the TAs via email or teams for any clarifications or typos.