1. Project Objectives

Implement a program that contains a record of people using a list structure. Use either contiguous or linked list implementation. Insert a database from a text file. Text file has a list of last names, first names, and ID numbers.

2. Task Breakdown

Task #	Description	Status	Assigned To
1	Understand class structure and data model	Done	Both
2	Implement core functionalities	Undergoing	Both
2-1	Insert records in alphabetical order	Done	Jonathan Mabery
2-2	Print the contents of the record	Done	Andrew Aprile
2-3	Support search functionality	Done	Both
3	Error handling and input validation	Done	Andrew Aprile
4	Test application	Done	Both
5	Finalize code and documentation	Done	Both

3. Timeline

Make a tentative timeline to manage the project progress.

Date	Task	Notes
9/13/25	Start Project. Setup GitHub	Done
9/15/25	Complete task 1	Done
9/16/25	Complete task 2	Done
9/20/25	Complete task 3	Done
9/20/25	Testing and debugging	Done
9/21/25	Submit project, code, report, documentation	Done

4. Technical Details

- **Language:** C++ (Standard: e.g., C++11 or C++14)
- **Development Environment:** [e.g., Windows 11, Visual Studio Code, g++, etc.]
- **Key Concepts Used:**
    - OOP (Classes/Objects)
    - File I/O
    - List
    - Sorting
    - String matching and comparison
    - Efficient manipulation of a customized data type

5. File Structure

```
/p01_group17.zip
|
├──/Code
        ├── List.h
        ├── utility.h
        ├── main.cpp
        ├── utility.cpp
        ├── makefile
        ├── data.txt
        ├── people.txt
        ├── smallpeople.txt
        ├── input_simulate.txt
├── p01_report.docx
├── p01-report.pdf
├── ProjectPlan.docx
├── ProjectPlan.pdf
└── README.md
```
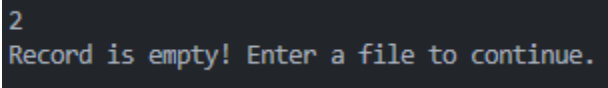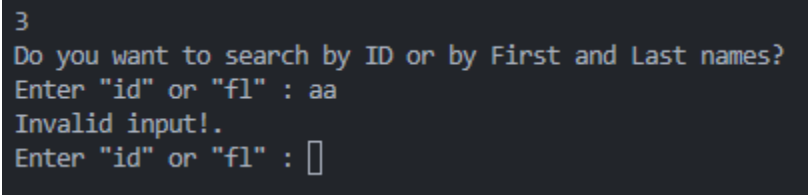
6. Testing Plan

- **Manual test cases**
    - Create test cases
        - User selects invalid menu option.
            - Solution:
            - Display error message.

- Display menu options again
  - User selects "Import List from File". Then user inputs a file name that doesn't exist
    - Solution:
    - Display message that says "Added 0 entries"
    - Display menu options again
  - User wants to display or search a record before adding entries
    - Solution:
    - Display a message saying that the record is empty

```
2
Record is empty! Enter a file to continue.
```

  - When the user selects the search list menu option and doesn't enter the option for id or first last name.
    - Solution:
    - Display error message and ask again for input

```
3
Do you want to search by ID or by First and Last names?
Enter "id" or "fl" : aa
Invalid input!.
Enter "id" or "fl" : []
```

- Input scenarios with expected vs actual output
- **Test in a standard environment**
  - Set up GitHub Actions
  - Compile the code
  - Optional: test cases
    - Duplicate entries
    - Invalid user input

7. Documentation

- **README.md** with:
  - Project description
  - How to compile and run
  - Usage instructions
- Code comments for clarity

8. Completion Checklist

Item	Done (Y / N)
All features implemented	Y
Code compiles without errors	Y
Optional: all test cases pass	Y

Item	Done (Y / N)
Proper documentation	Y
Code is commented	Y
Submitted on time	Y