Hw13-1

8. You have collected a file of movie ratings where each movie is rated from 1 (bad) to 5 (excellent). The first line of the file is a number that identifies how many ratings are in the file. Each rating then consists of two lines: the name of the movie followed by the numeric rating from 1 to 5. Here is a sample rating file with four unique movies and seven ratings:

Input:

```
7
Harry Potter and the Order of the Phoenix
4
Harry Potter and the Order of the Phoenix
5
The Bourne Ultimatum
3
Harry Potter and the Order of the Phoenix
4
The Bourne Ultimatum
4
Wall-E
4
Glitter
1
```

Write a program that reads a file in this format, calculates the average rating for each movie, and outputs the average along with the number of reviews. Here is the desired output for the sample data:

Output:

```
Glitter: 1 review, average of 1 / 5
Harry Potter and the Order of the Phoenix: 3 reviews, average of 4.3 / 5
The Bourne Ultimatum: 2 reviews, average of 3.5 / 5
Wall-E: 1 review, average of 4 / 5
```

Use a map or multiple maps to calculate the output. Your map(s) should index from a string representing each movie's name to integers that store the number of reviews for the movie and the sum of the ratings for the movie.

- Note
  - https://cplusplus.com/reference/map/map/
  - You can use map<string, vector<int>> moviemap to store the movie rates.
  - You can use istream& getline (istream& is, string& str) to read a line and store it into a string.
  - If the size of the vector is equal to 1, you should output review; If the size of the vector is bigger than 1, you should output reviews
  - Please use argv to read the input file and cout for the output.
  - The output order is followed by map.begin() to map.end()
  - Compile:
    - g++ Hw13-1.cpp -o Hw13-1
  - Execute:
    - ./Hw13-1 case1.in
  - OJ command:
    - /home/share/demo_OOP112_2 Hw 13-1
  - Submission
    - Naming your .cpp file studentID_Hw13-1.cpp and submit it on newE3

Hw13-2

9. Consider a text file of names, with one name per line, that has been compiled from several different sources. A sample follows:

Input

```
Brooke Trout
Dinah Soars
Jed Dye
Brooke Trout
Jed Dye
Paige Turner
```

There are duplicate names in the file. We would like to generate an invitation list but don't want to send multiple invitations to the same person. Write a program that eliminates the duplicate names by using the set template class. Read each name from the file, add it to the set, and then output all names in the set to generate the invitation list without duplicates.

Output

```
Brooke Trout
Dinah Soars
Jed Dye
Paige Turner
```

- Note
  - https://cplusplus.com/reference/set/set/
  - You can use set<string> names to store names.
  - You can use istream& getline (istream& is, string& str) to read a line and store it into a string.
  - Please use argv to read the input file and cout for the output.
  - The output order is followed by set.begin() to set.end()
  - Compile:
    - g++ Hw13-2.cpp -o Hw13-2
  - Execute:
    - ./Hw13-2 case1.in
  - OJ command:
    - /home/share/demo_OOP112_2 Hw 13-2
  - Submission
    - Naming your .cpp file studentID_Hw13-2.cpp and submit it on newE3