

You have a file containing a log written by a private investigator following his targets. The file might contain many entries, one in a row.

The private investigator uses consistent phrasing to describe what is going on. Each event he logs will have a matching phrasing-pattern, and only one word can change in a specific pattern.

Your task is to write code that groups together sentences which share the same pattern, then outputs them to a file in the format you see in the example below.

The input may look like:

```
01-01-2017 19:45:00 Naomi is getting into the car
01-01-2017 20:12:39 Naomi is eating at a restaurant
02-01-2017 09:13:15 George is getting into the car
02-01-2017 10:14:00 George is eating at a diner
03-01-2017 10:14:00 Naomi is eating at a diner
```

The output should then look like:

```
01-01-2017 19:45:00 Naomi is getting into the car
02-01-2017 09:13:15 George is getting into the car
The pattern is: [X] is getting into the car
The changing word was: Naomi, George

02-01-2017 10:14:00 George is eating at a diner
03-01-2017 10:14:00 Naomi is eating at a diner
The pattern is: [X] is eating at a diner
The changing word was: Naomi, George
```

Please upload your code to GitHub and send me a link. Make sure to also upload a sample input file. Alongside the code, please answer the following questions:

- What can you say about the complexity of your code?
- How will your algorithm scale? If you had two weeks to do this task, what would you have done differently? What would be better?