# 2024 BMED223 :: Hands-on instructions

- **Filename: week14_studentID_studentName.zip**
- **Deadline: 2024/06/10 23:59**
- **No excuse for late submission**. Prepare for submission in advance.
- There is no limit on the number of submissions, but grading will be based on the final file.
- Use comments (#, #%%, etc.) to separate problems.

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**[Problem 1]**

**1. Load the data**

A. The data ***passenger_register.csv*** includes passenger data related to ship sinking accidents. The data structure is as shown in the table below.

| Columns | Descriptions | Values |
|---|---|---|
| PassengerId | Passenger ID | |
| Survived | Survival | 0 = No, 1 = Yes |
| Pclass | Ticket class | 1 = 1st, 2 = 2nd, 3 = 3rd |
| Gender | Biological sex | |
| Age | Age in years | |
| SibSp | # of siblings / spouses aboard the ship | |
| Parch | # of parents / children aboard the ship | |
| embarked | Port of Embarkation | C = Cherbourg,<br>Q = Queenstown,<br>S = Southamption |
| Registered | Registered date | MM-DD-YYYY |

B. Load ***passenger_register.csv*** into a Pandas Dataframe.

**2. Data visualization**

A. Using subplot, **plot** the following two things in one figure.

i. Plot the number of people registered based on the date.

ii. Plot the cumulative number of people registered based on date order.

At this time, change the registered date to (YYYY-MM-DD) format using datetime and use it as the x-axis of the plot.

B. Show the number of male and female registered based on date. And fill the difference between the two. Use fill_between() from matplotlitb.pyplot.

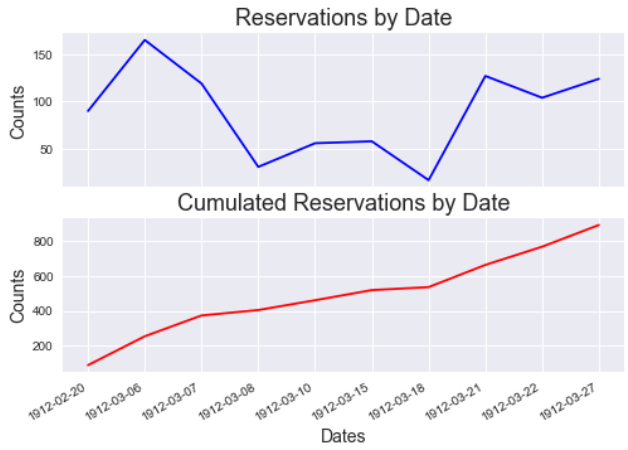
C. Using subplot, **draw a bar graph** following two things in one figure.

i. Show the number of ***survival status*** as a bar graph.

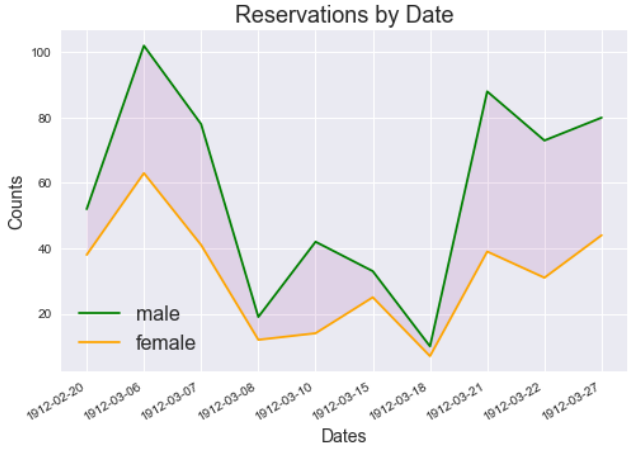
ii. Show the ***gender*** distribution according to ***survival status*** as a bar graph.

D. Example

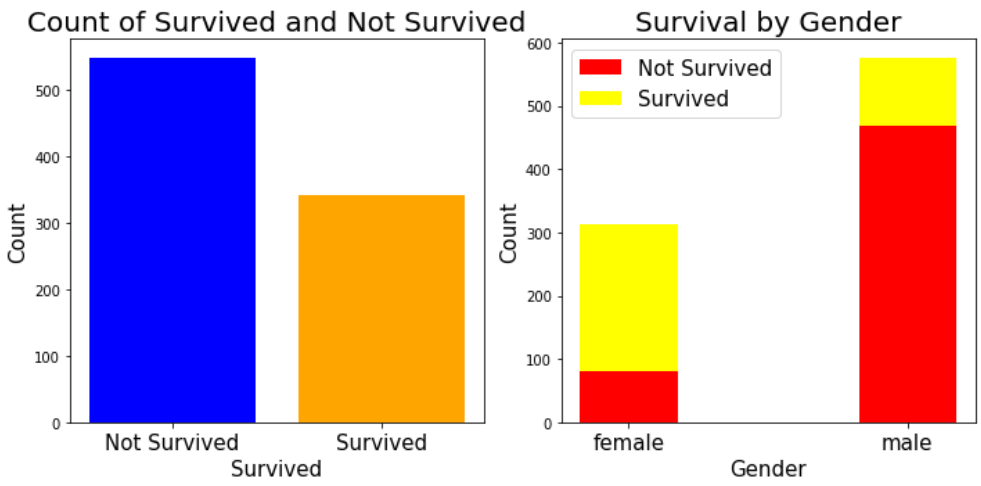
2.A




2.B



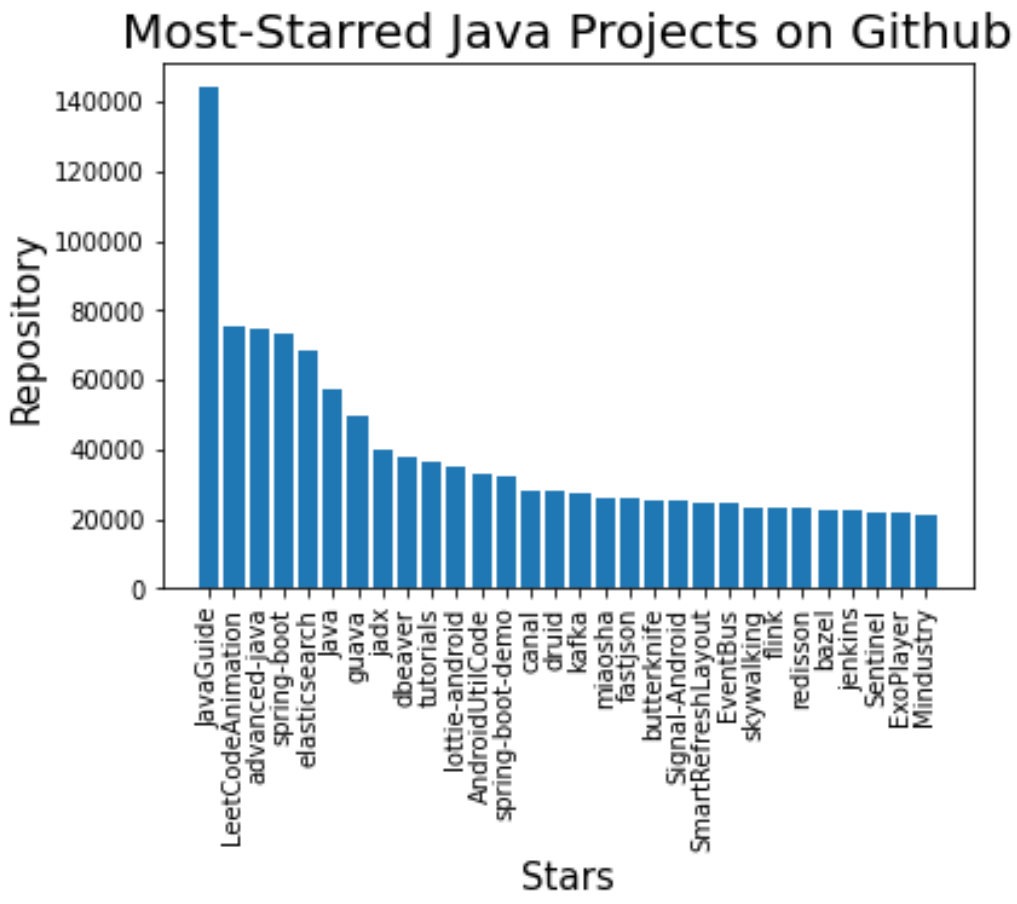

2.C



**[Problem 2. Textbook problem – chapter.17]**

Modify the API call in ***python_repos.py*** so it generates a chart showing the most popular projects **in other languages before 2023**. Try languages such as JavaScript, Ruby, C, Java, Perl, Haskell, and Go. Use matplotlib to create bar graph.

(https://docs.github.com/en/search-github/searching-on-github/searching-for-repositories)

| Example for ***Java*** languages ***before 2023***. |
| --- |
|  |



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