Airbnb - Lab 4 artifact

Features (user stories) to Implement in Next Sprint:

- **How does the number of Airbnb listings change over different provinces (neighborhood_group)?**
  (listings.csv)
    - **Feature 1**: as a user, I want to see which provinces have the most and the least listings.
- **How a neighborhood impacts the listing's (price/availability)?**
  (listings.csv)
    - **Feature 2**: as a user, I want to see which neighborhood is more popular (has fewer available days).
    - **Feature 3**: as a user, I want to see which neighborhood is more expensive to stay in (has a higher price).
- **How does room type impact the listing's (price/availability)?**
  (listings.csv)
    - **Feature 4**: as a user, I want to see which room type is more popular (has fewer available days).
    - **Feature 5**: as a user, I want to see which room type is more expensive to stay in (has a higher price).

GUI

- **Number of listing over a province**

Neighborhood	# of Listings
A	12
B	45
C	23

- **Impact of a neighborhood on price and availability**

Neighborhood	Avg non available days	Avg Price
A	354	12
B	55	45
C	200	23

- **Impact of a room type on price and availability**

Room Type	Avg non available days	Avg Price
Entire home/Apt	354	6009
Hotel room	55	455
Private room	200	239
Shared room	56	34

Test Cases

- **Feature 1 test cases**: as a user, I want to see which provinces have the most and the least listings.
    - Test case 1: as a user, I want to see an overview of the provinces and the listings they have.
        - Correct output: The website outputs a table with the provinces and the number of listings per province.
- **Feature 2/3 test cases**: as a user, I want to see which neighborhood is more popular (has fewer available days) and is more expensive to stay in (has a higher price).
    - Test case 1: as a user, I want to see an overview of neighborhoods and their average non available days and their average price.
        - Correct output: The website outputs a table with the neighborhoods and the number of available days, going from least to greatest.
- **Feature 4/5 test cases**: as a user, I want to see which room type is more popular (has fewer available days) and is more expensive to stay in (has a higher price).
    - Test case 1: as a user, I want to see an overview of room types and their average non available days and their average price.
        - Correct output: The website outputs a table with the room types and the number of available days.

TODO LIST

Done list of last sprint:

- Create a frontend form component for adding a new listing.
    - [finished by Jinhuan Liu and verified by everyone]
- Create a frontend form component for deleting an existing listing.
    - [finished by Jinhuan Liu and verified by everyone]
- Create a frontend form component for updating a current listing.
    - [finished by Jinhuan Liu and verified by everyone]
- Create a frontend form component for importing csv files.
    - [finished by Jinhuan Liu and verified by everyone]
- Create a frontend component for back-up csv files:
    - [finished by Yinjie Xie and verified by everyone]
- Backend program to modify REST API to include PUT/PATCH request for updating a listing.
    - [finished by Vivian Tsai and verified by everyone]
- Backend program to modify REST API to include POST request for creating a listing.
    - [finished by Ruth Navarrete and verified by everyone]
- Backend program to modify REST API to include DELETE request for deleting a listing.
    - [finished by Ruth Navarrete and verified by everyone]
- Backend program to modify REST API to include a GET request for creating a backup csv file.
    - [finished by Qi Liu and verified by everyone]
- Backend program to modify REST API to include a request for importing a csv file.
    - [finished by Qi Liu and verified by everyone]
- Backend program for Backup function.
    - [finished by Qi Liu and verified by everyone]

- Backend program for Create and Update function.
    - [finished by Yinjie Xie and verified by everyone]
- Backend program for Optimizing process method for array.
    - [finished by Jinhuan Liu and verified by everyone]
- Backend program to modify REST API to include a GET request for getting dataset.
    - [finished by Yinjie Xie and verified by everyone]
- Backend program to modify REST API to include a GET request for loading csv file.
    - [finished by Yinjie Xie and verified by everyone]
- Create unit tests for Insert, Delete, Update, Backup, and Import.
    - [finished by Vivian Tsai and verified by everyone]

ToDo task list for the next sprint:

- Backend program to sort search function results based on a specific attribute.
    - Acceptance criteria: return an array of search results sorted based on a given attribute.
- Backend program to find average price based on the parameter given by user (neighborhoods or room types).
    - Acceptance criteria: return average price based on neighborhoods or room types.
- Backend program to find average non availability based on the parameter given by user (neighborhoods or room types).
    - Acceptance criteria: return the average non availability based on the parameter given by the user.
- Backend program to find number of listings per province.
    - Acceptance criteria: return total number of listings in the province.
- Backend program to modify REST API to include a GET request for the number of listings over a province, impact of a neighborhood on price and availability, and impact of a room type on price and availability.
    - Acceptance criteria: the server receives the request and returns back the data in JSON.

- Create front end components for making a number of listings over a province request.
    - Acceptance criteria: the request sends to the server the specified request and displays, in a table, the server's response.
- Create front end components for making an impact on a neighborhood on price and availability requests.
    - Acceptance criteria: the request sends to the server the specified request and displays, in a table, the server's response.
- Create front end components for making an impact of a room type on price and availability request.
    - Acceptance criteria: the request sends to the server the specified request and displays, in a table, the server's response.
- Testing
    - Acceptance criteria: Verify that all functions behave properly and output correct results.