Instructions

This assignment has two parts. First, you will create a Shiny application and deploy it on Rstudio's servers. Second, you will use RMD presentation to prepare a reproducible pitch presentation about your application.

Instruction list

1. Write a shiny application with associated supporting documentation. The documentation should be thought of as whatever a user will need to get started using your application.
2. Deploy the application on ShinyApps.io shiny server
3. Share your server.R and ui.R code on github
4. Write a 10 slides pitch using RMD presentation.
5. Push the presentation to github repo.

The application must include the following:

1. Some form of input (widget: textbox, radio button, checkbox, ...)
2. Some operation on the ui input in server.R
3. Some reactive output displayed as a result of server calculations
4. You must also include enough documentation so that a novice user could use your application.
5. The documentation should be at the Shiny website itself. Do not post to an external link.

The Shiny application

The shiny application should display insights about various cities from various countries:

- The app should show insights about various cities in **at least 3 of the following countries**: France, Spain, Italy, Germany, Netherlands, Belgium.
- Statistics and exploratory graphs should now be estimated over **at least the last 3 available scraping dates of data**. In the app, the user can select a min-max range of dates for data to be filtered then aggregated over.
- all_data_urls.csv file contains the listings data urls is uploaded to campus.
    - Use R regex to filter data urls to those you're interested in (3 countries you chose / last 3 scraping dates).
    - Update the preprocessing script to prepare the new set of data (3 countries you chose / last 3 scraping dates).

It should contain two tabs, one tab for analysis 1 that compares different cities with each other. Tab 2 that contains analysis 2 which deep dives into a selected city.

- In Tab 1 (Analysis 1 – Comparing cities), the user should be able to:

    - Select the cities he would like to compare among the list of cities you already have.
    - Select a feature that he would like to compare (availability over last 30 days, revenue, price …).
    - Select the **aggregation type** / plot type (average, median, histogram, density, boxplot …)
    - Have more granularity to your insights by allowing for the possibility of addition of **new dimensions** to the plot (room type / nº bedrooms, neighborhood…), so that your plot can now plot the histogram of revenue over both the different cities and different room types for instance.
- In Tab 2 (Analysis 2 – Deep dive into a city), the user should be able to:
    - Select the city he would like to analyze.
    - Display the finer grained analysis.
    - Display a map(s) of listings in the selected city.
        - Try to display insightful maps
        - Choose to use GoogleVis, leaflet, other frameworks.

Your Reproducible Pitch Presentation

OK, you've made your shiny app, now it's time to make your pitch. You get 10 slides (inclusive of the title slide) to pitch your app.

Here's what you need

1. 5 slides maximum to pitch our idea done in RMD presentation
2. Your presentation should also be pushed to github

Hint: Organize your project repo as follow:

- App directory
- Presentation directory
- Scripts directory (includes all other types of scripts such as the preprocessing scipt)