Lab week 7 – practicing visualisations.

Read the advice given in https://eazybi.com/blog/data_visualization_and_chart_types/
And decide on which type of graph you will use for the following tasks. You may visualise the same thing in more than one way, but follow the decluttering advice given in http://www.storytellingwithdata.com/blog/2016/3/1/declutter-your-data-visualizations with a worked example in http://www.storytellingwithdata.com/blog/2017/3/29/declutter-this-graph. The book http://www.cookbook-r.com/Graphs/ is useful for giving examples of how to make specific charts in R. The definitive source is https://ggplot2.tidyverse.org/reference/

I suggest the following libraries, but you may use alternatives:
Dplyr, tidyverse, ggplot2, lubridate and sqldf

1. Titanic, straightforward questions. (1 mark)
   Download the titanic.csv with 887 observations. Look at the properties of the columns in the dataset.
   Before creating your graph, decide on your data and chart type.
   Is the data categorical? Ordinal? Temporal? Nominal? Ratio? How many distinct values are there? Is it ordered?
   What type of chart is appropriate?

   Create graphs for the following:
   a. The distribution of travellers on the Titanic, by gender.
   b. The distribution of travellers by cabin class.
   c. The distribution of travellers by boarding place.
   d. The distribution of travellers by survival.

2. Weather station, straightforward questions (1 mark).
   Download mly532.csv from Brightspace , or directly from https://data.gov.ie/dataset/dublin-airport-monthly-weather-station-data/resource/fb987e40-24a8-43b9-9758-722cbde3818b.
   See the example notebook / R source Boulder.ipynb (Boulder.R) for examples on handling temporal data. Create graphs for the following:
   a. Show the rainfall recorded at Dublin Airport over the months in 1960.
   b. Show average monthly rainfall over the 1960s
      i. i.e. 1960 – 1969.

3. More complex charts:
   a. Create a graph showing Survival rate on the Titanic, by Gender, Fare and Class.
      OR
      Create a graph to show average monthly rain fall for the 1940s, 1950s, 1960s, 1970s, 1980s, 1990s, 2000s and 2010s all on the same graph, highlighting the 2010s.
   b. Critically analyse your charts: Are they clear? Is there too much clutter?