

Data Viz exam

Individual final exam - Open book - 2 hours

Technical requirements:

- use Python 3.5 or newer
- submit one notebook containing your work and comments
- all external libraries that were not mentioned nor used during class must be listed as text at the beginning of the notebook

Subject:

In this exercise, we aim to provide insights on the personal accidents in France in 2021.

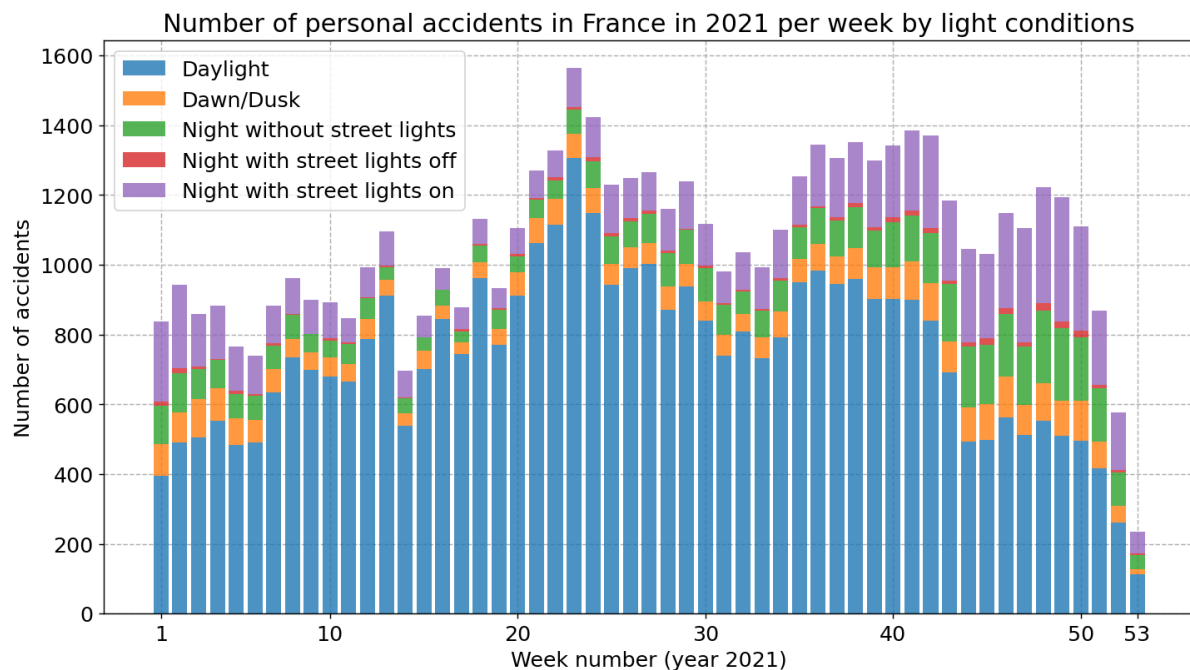
You are provided several csv files which were published by the French government. They all contain accident data and they might not all be necessary to answer all questions. Make sure to read the documentation in order to get familiar with the data.

Question 1 (3 pts)

Among all the vehicles in the database, what is the top 3 of the most common ones? Answer without any data visualization, only manipulating data structures.

Question 2 (8.5 pts)

Using the visualization library of your choice, transform the available data and recreate the following graph showing the evolution of the number of accident over time. Your graph does not have to be identical to the following picture (colors and font can differ, for example), but the aesthetics and the information shown should remain.



Question 3 (8.5 pts) - Maps

Plot two maps, one showing all accidents and one showing all accidents filtered by gravity, keeping only deaths. Both maps should only include mainland France (latitude between 41 and 51.7, longitude between -5.8 and 10.3). Maps should also show other metrics of your choice from the dataset. Maps do not necessarily have to include a geographical background. In other words, it is acceptable to use a plain white background without the shape of France.

Criteria

- Clarity and quality of visualizations: is the balance between complexity and simplicity respected?
- Technique: How well the mastery of Python dataviz libraries is shown?
- Others: anything that can be interesting to add to enrich your work (details for cleaning, types of data and the constraints they bring, etc.) and make it original.
- Plagiarism (even partial) will lead to a grade of 0.