Part 1) Developing a script for *Noise Mapping and Exposure*

The main objective of this exercise is to learn how to write a Python script in order to map noise and exposure buildings to it. Here is the task.

The city of Copenhagen has decided to map noise across Copenhagen and you are asked to do that for southern Copenhagen. You should make a noise map based on the following criteria:

- areas within 20 meters away from roads network (target file: roads_cph.shp)
- areas within 50 meters away from railways (target file: railways_cph.shp)
- areas within 30 meters away from bus stops (target file: points_cph.shp)

You are asked to write a script to intake the abovementioned files and create a noise map. Optionally, you can use Tkinter Python module for making a graphical user interface for inputting/outputting files. Note that you need to make a buffer with the given distance values and then merge the buffer files together.

Part 2) Now, use your noise map and overlay it with the "buildings_cph.shp" file and classify the buildings based on noise exposure into "**exposed**" and "**not exposed**" and export it as an interactive map.

Delivery: submit a Jupyter notebook containing scripts for doing the tasks above.

Data: check Moodle page for downloading the required data.