Data Visualization
Assignment 4: Final Project

Requirements:

- We will finish this class by giving you the chance to use what you have learned in a practical context, by creating data visualizations from raw data.
- Choose a dataset of interest from the City of Toronto's Open Data Portal (https://www.toronto.ca/city-government/data-research-maps/open-data/) or Ontario's Open Data Catalogue (https://data.ontario.ca/).
- Using Python and one other data visualization software (Excel or free alternative, Tableau Public, R, any other tool you prefer), create two distinct visualizations from your dataset of choice.
- For each visualization, describe and justify:
    - What software did you use to create your data visualization?
    - Who is your intended audience?
    - What information or message are you trying to convey with your visualization?
    - What design principles (substantive, perceptual, aesthetic) did you consider when making your visualization? How did you apply these principles? With what elements of your plots?
    - How did you ensure that your data visualizations are reproducible? If the tool you used to make your data visualization is not reproducible, how will this impact your data visualization?
    - How did you ensure that your data visualization is accessible?
    - Who are the individuals and communities who might be impacted by your visualization?
    - How did you choose which features of your chosen dataset to include or exclude from your visualization?
    - What 'underwater labour' contributed to your final data visualization product?
- Your final submission document should include:
    - Two data visualizations
    - Written descriptions for each data visualization
    - Link to your dataset of choice
    - Complete and commented code as an appendix (for your visualization made with Python, and for the other, if relevant)
- This assignment is intentionally open-ended - you are free to create static or dynamic data visualizations, maps, or whatever form of data visualization you think best communicates your information to your audience of choice!
- Total word count should not exceed (as a **maximum**) 1000 words

Why am I doing this assignment?:

- This ongoing assignment ensures active participation in the course, and assesses learning outcomes 1, 2, and 3:
    1. Create and customize data visualizations start to finish in Python
    2. Use general design principles for creating accessible and equitable data visualizations in Python and other software
    3. Understand data visualization as purposeful/telling a story (and the ethical/professional implications thereof)
- This would be a great project to include in your GitHub Portfolio – put in the effort to make it something worthy of showing prospective employers!

Rubric:

Component	Scoring	Requirement
Data Visualizations	Pass/Fail	● Data visualizations are distinct from each other ● Data visualizations are created with two different softwares/tools (clearly identified) ● Images of data visualizations are clear and high-quality, or (if hosted online) accessible via link ● Data visualizations follow best practices of accessibility
Written Explanations	Pass/Fail	● All questions from assignment description are answered for each visualization ● Explanations are supported by course content or scholarly sources, where needed
Code	Pass/Fail	● All code is included as an appendix with your final submission ● Code is clearly commented and reproducible