CS3 Case Study Rubric: Suicide Trends in Japan
DS 4002 – Fall 2024 – Elijah Kim
Due: **TBD**
Submission format: Upload a link to a GitHub repository on Canvas

Individual Assignment

Preparatory Assignments - None, but use what you have learned thus far!

Why am I doing this?
This case study challenges you to apply data science techniques to explore an important, pressing, and ongoing issue in one of the world's leading countries - Japan. By working through this assignment, you will learn ways data analysis can be used to predict future trends and outcomes in a real-world context that can be applied to policy and governance.

What am I going to do?
Using your accumulated knowledge from your studies, you will apply these skills to a real-world and important issue as a data scientist. You have the opportunity to show off these skills in this independent assignment. You will analyze historical suicide data for Japan by using predictive models to identify trends and unexpected spikes in suicide rates among various age groups. You will then identify potential causes by these spikes and propose actionable strategies to optimize how these spikes could be minimized (e.g. through mental health allocation).

Your final deliverables should include:
- A one page analysis and propose solution to the problem
- Well documented source code
- Data dictionary
- Any supporting materials, including references used
- A GitHub repository containing all materials used

How will I know I have succeeded?
You will meet the expectations on this case study when you successfully follow and complete the criteria in the rubric below:

Spec Category	**Spec Details**
Formatting	● One GitHub repository (submitted via link on Canvas ○ Contains: ■ README.md ■ Source code file ■ ANALYSIS.pdf ■ Data_Used/ ■ Outputted_Results/ ■ REFERENCES.md

README.md	● Brief summary of what your code has produced for the case study (not overly detailed but enough so others can understand what to expect)
Source Code File	● Well documented Jupyter Notebook that contains the code used to execute your analysis. Code must include: ○ Any code used to get a result ○ Prediction analysis ○ Comments throughout
ANALYSIS.pdf	● Write a 2-3 page analysis that contains: ○ Your findings ○ Application of predictive models ○ Hypothesis testing results ○ Clearly labeled visualizations ○ Brief explanations on the outputs and what you think of them ○ Actionable insights you believe could be the next steps for this scenario
Data_Used	● Directory containing any data that was used for the assignment (datasets, etc.)
Outputted_Results	● Directory containing any results you have created ○ Must include all visualizations and results included in ANALYSIS.pdf
REFERENCES.md	● Markdown file containing all references used and cited throughout this case study. Can be journals, articles, websites, etc. ● Add a one sentence description on what area each reference helped you with

Acknowledgements: Thank you Professor Gates for the structure of the rubric!