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CSC 310
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# Final Project

## Description

The application we built is based on mental health. This application takes in information to see if someone's mental health is okay, stressed, anxious, or having an attack during the week. At the end of the week, it shows when in the week they were most anxious and needed help. These results are be based on various facets of daily life that can affect the stress and anxiety level of that individual.

## Data Applications

We had the user input data on exercise, heart rate, sleep, water intake, and anxiety all on a number scale (depended on each variable). We found the averages of each variable in a health matter (for example, the average amount of water intake for an adult per day should be 64 oz). We then made functions to see if that person was above, below, or at that average, and put either a 0,1, or 2. 0 meant it did not cause any anxiety, 1 meant it cause some anxiety, 2 meant it caused a lot of anxiety. Once we put all of these variables into a 0-2 scale, we found the mean of the variables to see how much anxiety that individual had that day. 0-.67 was no stress, .68-1.33 meant some stress, and 1.34-2.0 meant a lot of stress. After we got these inputs, we put them in their own strings in order to have them for each day of the week. All of these strings were then put into a dataframe in order to do analysis for the week. We used a scatterplot that would show what variables affect the anxiety the most and which ones correlated with others.

**Responsibilities**

We both decided to work together on the project to make it fair to the other to make the work even. We work together as a team well and knew that working on the project on the same time it would be finished efficiently. We were able to find problems faster and find better solutions to code. Below were our Milestones before.

**Milestones**

- 4/17 - Proposal Done
- 4/19 - Start Coding, have general idea down and outline of code finished
- 4/23 - Continue Coding, focus on main user interface solidified, start analyzation coding
- 4/25 - Finish user interface, continue on analysis code
- 4/26 - Finish Coding, test application to make sure it is working 100% properly
- 4/29 - Project Due, make sure the application is good to go before submitting

These were our original milestones, however, we found out that the final wasn't due until May 8th, giving us more time.

**Implementation and challenges**

The milestones were originally for when we thought the project was due on April 29th. Once we found out that it was due on May 8th, we decided to take more time with the project. We met once a week and got a good chunk of the coding done each time. We finished the project a few days before it was due, so we finished on time. When we originally started this, we had

another variable; blood pressure. When inputting the code to input the data, blood pressure became a problem. Since blood pressure is two numbers, it was difficult to try and find the correct way to input blood pressure as well as read it in the software. We also had syntax errors that took us some time to figure out. These errors included data slicing for our linear regression model, issues with user input, and visualizing the data using seaborn. While working out all of the kinks was tricky, we persevered and was able to implement everything to our goals.

**Technology**

The technology we used is a standalone python script that will store user inputted data into a pandas data frame. The goal is to store a week's worth of data and provide the user with their statistics. These statistics will include the average hours of sleep, average hours of exercise, average heart rate, average water intake,  and average stress level.  The modeling aspect we will be focusing on is linear regression, to see which data correlates most with the output of anxiety level.