Project name: Determinants of World Happiness

Project Members: Mahmoud Abdulkarim, Tobe Mordi, James Porter, Jake Treder, Tim Sullivan

Project Description/Outline: Exploring the World Happiness Report to understand the factors that contribute to happiness ratings. Determine any correlating factors like GDP and Life Expectancy and how they affect ratings. Also, research the effect of Covid on the results.

Research Questions to Answer:

1. Which factors are most closely associated with World Happiness? (correlations)
2. How did Covid affect World Happiness?
3. Which independent variables are correlated with each other? (i.e. GDP and Life Expectancy, Freedom and Corruption, etc.)
4. How does age contribute to the results?
5. How accurately can we predict future happiness? Are there any limitations to the data? How can it be improved?

Data Source:

<https://worldhappiness.report/data/>

We have years 2012 through 2024 and will decide what specific data we use.

Graph ideas:

* Map plot of Happiness by Country. Bubble chart
* Top 10 Happiness score by country
* Bottom 10 Happiness score by country
* Scatter plot of Happiness vs GDP. Linear regression and correlation.
* Scatter plot of Happiness vs Social Support. Linear regression and correlation.
* Scatter plot of Happiness vs Life Expectancy. Linear regression and correlation.
* Scatter plot of Happiness vs Freedom. Linear regression and correlation.
* Scatter plot of Happiness vs Generosity. Linear regression and correlation.
* Scatter plot of Happiness vs Corruption. Linear regression and correlation.
* Scatter plot of Happiness vs Life Ladder. Linear regression and correlation.
* Happiness by age group
* Multi-Bar chart for top 5 countries showing Happiness and other factors like GDP, Life Expectancy, etc.
* Trend of happiness over time for all countries, US, continent. Predict future happiness.
* Biggest increase/decrease in happiness from 2012 to 2023
* Covid years

Rough Breakdown of Tasks:

* GitHub (Mahmoud)
* Which factors are most closely associated with World Happiness? (Jake)
* How did Covid affect World Happiness? (Tim)
* How does age affect results? (Tobe)
* Which independent variables are correlated with each other? (James)
* How accurately can we predict happiness? (Mahmoud)
* Presentation (All)