Project 1 Write-Up

Project: World Development Indicators

Core Message/Hypothesis: How do the countries compare across economic development indices?

How well do the fruits of economic development (Outputs) relate to GDP per Capita?

Questions:

Sources of terms- Kaggle Datasets and <https://bizfluent.com/info-7746218-indicators-economic-development.html>

* What are the baseline indicators of economic development?
  + GDP per Capita
* Does life expectancy increase with economic development across countries?
  + It is assumed that there is a strong positive correlation between life expectancy and economic development.
* Do infant mortality go down with economic development across countries?
  + It is assumed that there is a strong negative correlation between maternal & infant mortality rates and economic development.
* What are the import & export rates across countries and how do they compare to economic development?
  + The question is asked because we theorize that there is a strong correlation between import/export rates and economic development.
  + Developing nations need to rely on production & exports to grow, while more advanced economies tend to move from manufacturing to services, so the expectation is:
    - Export rates and economic development: strong negative correlation.
    - Import rates and economic development: strong positive correlation.

Sources of Data

* Outputs
  + <https://data.worldbank.org/>
    - Life Expectancy,
    - Mortality Rates,
    - Imports & Exports
* Baseline Indicators (Inputs)
  + <https://data.worldbank.org/>
    - GDP per Capita

Types of Joins/Merges:

Summary\_df = GDP\_per\_Capita.csv & Life\_Expectancy.csv: CountryCode

Summary\_df = Summary\_df & Infant\_Mortality.csv: CountryCode

Summary\_df = Summary\_df & Exports.csv: CountryCode

Summary\_df = Summary\_df & Imports.csv: IndicatorName

Steps to Answer Questions:

* Merge files to create Master DataFrame with Jupyter Notebook.
* Clean the data with Jupyter Notebook.
  + Use DropNa function with how = “all” argument to remove rows with null values.
  + Sort values of whole master dataframe by the GDP per capita values.
* Create DataFrame for “Top 5” countries and one for “Bottom 5” countries based on GDP per capita.
  + One for earliest common year (i.e. 1990)
  + One for latest common year (i.e. 2017).
* Create Bar Charts showing “Top 5” & “Bottom 5” countries together based on GDP per capita.
  + One for earliest common year (i.e. 1990)
  + One for latest common year (i.e. 2017)
* Create Life Expectancy Scatter Plot comparing life expectancy vs. countries together based on GDP per capita.
  + One for earliest common year (i.e. 1990)
  + One for latest common year (i.e. 2017)
  + Set the plot title, xlabel, & ylabel
  + Create regression parameters
  + Create the line equation.
  + Plot the regress values on the Scatter Plots.
  + Annotate the line equations on the Scatter Plots.
* Create Infant Mortality Rate Scatter Plot comparing life expectancy vs. countries together based on GDP per capita.
  + One for earliest common year (i.e. 1990)
  + One for latest common year (i.e. 2017)
  + Set the plot title, xlabel, & ylabel
  + Create regression parameters
  + Create the line equation.
  + Plot the regress values on the Scatter Plots.
  + Annotate the line equations on the Scatter Plots.
* Create Export Rate Scatter Plot comparing life expectancy vs. countries together based on GDP per capita.
  + One for earliest common year (i.e. 1990)
  + One for latest common year (i.e. 2017)
  + Set the plot title, xlabel, & ylabel
  + Create regression parameters
  + Create the line equation.
  + Plot the regress values on the Scatter Plots.
  + Annotate the line equations on the Scatter Plots.
* Create Import Rate Scatter Plot comparing life expectancy vs. countries together based on GDP per capita.
  + One for earliest common year (i.e. 1990)
  + One for latest common year (i.e. 2017)
  + Set the plot title, xlabel, & ylabel
  + Create regression parameters
  + Create the line equation.
  + Plot the regress values on the Scatter Plots.
  + Annotate the line equations on the Scatter Plots.

Tasks:

Maria – Create bar charts showing GDP per capita. (Reference the Steps to Answer Questions section)

Tom – Create scatter plots for life expectancy vs GDP per capita and infant mortality vs GDP per capita. (Reference the Steps to Answer Questions section)

Ben – Create scatter plots for exports.

Jemi – Create scatter plots for imports.