Method

The repository is available under Link to Repository.

1. Git Repository and Virtual Python Environment Generation

Set up of a GitHub repository and a local virtual environment for reproducibility and to ensure all relevant packages are available. Run the following **environment.sh** in a Virtual Studio Code Terminal (some steps are only necessary on macOS which is the operating system I am using).

```sh
#!/bin/sh

# Install Python
echo "Install Python:"
pyenv install 3.11.13

# Set global or local version
pyenv global 3.11.13
```

Then run

```sh
# Create and activate virtual environment
python3 -m venv .venv
source .venv/bin/activate

# Upgrade pip and install dependencies inside venv
pip install --upgrade pip
pip install pandas matplotlib
```

inside the VS Code Terminal to create the virtual environment to work in.

2. Data Access

After some attempts to use the Python library wbdata to automate accessing the required World Bank datasets (the library requires an OpenSSL version that I could not successfully access through the python installation on my system), I resorted to downloading the datasets manually from https://databank.worldbank.org/source/ on July 27, 2025.

OpenAI's ChatGPT quickly leads to the relevant databases, namely 'World Development Indicators' and 'Environment', which I downloaded the required parameters of as comma-separated values (CSVs). The files, including the associated metadata, were added to the repository input folder.

The GDP per capita data was available with different currency options. I selected the "current US$" option, which introduces uncertainty associated to currency exchange but enables direct comparison of the two countries.

3. Data Import and Plotting

Create an `analysis.py` python file that imports the World Bank data and plots it. Run this using `python analysis.py`. Files are written to an `output` folder.

4. Discussion

Write `discussion.md` and convert Markdown file into PDF using the VS Code extension "Markdown PDF".