[Git](https://github.com/git-guides/install-git)

<https://github.com/git-guides/install-git>

<https://code.visualstudio.com/download>

\* Colab: <https://research.google.com/colaboratory/>

# **Infant Mortality Rate Project Analysis**

![Alt text] (IMR\_CodeYou\_CP.png)

[/content/drive/MyDrive/Infant-Mortality-Rate-Project-Analysis/IMR\_Image](https://colab.research.google.com/drive/1bNERwBzOV2DsuH3T67IxC0X70CY_Qesa#)

This project aims to analyze child mortality rates in the world using data covering the periods 1990, 2000 & 2021. The data used is from UNICEF's State of the World's Children 2023: Statistical tables. The goal of this analysis is to better understand the health of populations, help improve healthcare systems, and support the implementation of effective interventions to reduce infant mortality and improve maternal and child health outcomes.

Python will be used for data preprocessing, analysis, and modeling; SQL for database management, and Tableau, Dash Plotly & Matplotlib for data visualization.

Source of data:

[https://data.unicef.org/resources/dataset/the-state-of-the-worlds-children-2023-statistical-tables/](https://colab.research.google.com/corgiredirector?site=https%3A%2F%2Fdata.unicef.org%2Fresources%2Fdataset%2Fthe-state-of-the-worlds-children-2023-statistical-tables%2F)

**Resources:**

* Data sets on child mortality
* Git
* Google Colab or Visual Studio Code
* Tableau software for visualization
* Data dictionary (included in the readme and project folder)

**Deliverables:**

* Cleaned and preprocessed child mortality data
* Python/Pandas scripts for data analysis and modeling
* Tableau dashboards and visualizations
* Project report

**Features:**

1. Data collection: Read in two .CSV data files
2. Data processing: Cleaned and processed data; performed a data (pandas) merge with the two .csv files

* Checked for missing values, duplicates, data types and basic statistics
* Replaced NaNs with zeros
* Printed out column names
* Transformed the data for viewing trends over time

1. Data visualization: presented the data using  
    \* a Tableau dashboard  
    \* 3 matplotlib visualizations  
    \* plotly
2. Best practices
3. Data dictionary
4. Data interpretation

**Best Practices:**

1. Clone the repository
2. Open Git
3. Create a virtual environment using Venv a. Install venv to your host Python by running this command in your terminal:  
    ~ pip install virtualenv  
   b. To use venv in your project, in your terminal, create a new project folder, cd to the project folder in your terminal, and run the following command:  
    ~ python<version> -m venv venv   
   #The second "venv" is the c. Then run:  
    ~ pip install -r requirements.txt
4. Clone the repository by typing:  
    ~ git clone followed by the link you copied from GitHub
5. Run the project

**How to Deactivate a Virtual Environment:** To deactivate your virtual environment, simply run the following code in the terminal:

~ deactivate

To run this project, Git, Visual Studio Code, or Google Colab will be required.

In order to run the project in Google Colab, upload the data files to your Google drive.

**How to install:**

* [Git](https://github.com/git-guides/install-git)
* [VS Code](https://colab.research.google.com/corgiredirector?site=https%3A%2F%2Fcode.visualstudio.com%2Fdownload)
* [Google Colab](https://colab.research.google.com/corgiredirector?site=https%3A%2F%2Fresearch.google.com%2Fcolaboratory%2F)

\* [Git](https://github.com/git-guides/install-git)

\* [VS Code](https://code.visualstudio.com/download)

\* [Google Colab](https://research.google.com/colaboratory/)

**Other resources:**

<https://data.unicef.org/resources/dataset/the-state-of-the-worlds-children-2023-statistical-tables/>

<https://www.freecodecamp.org/news/how-to-setup-virtual-environments-in-python/>

**Future plans:**

[1]

37s

from google.colab import drive

drive.mount('/content/drive')

| 'Countries and areas', 'Under-five mortality rate 1990',  'Under-five mortality rate 2000', 'Under-five mortality rate 2021',  'Annual rate of reduction in under-five mortality rate 2000-2021',  'Under-five mortality rate Male 2021',  'Under-five mortality rate Female 2021', 'Infant mortality rate 1990',  'Infant mortality rate 2021', 'Neonatal mortality rate 1990',  'Neonatal mortality rate 2000', 'Neonatal mortality rate 2021',  'Mortality rate among children aged 5–14 years 1990',  'Mortality rate among children aged 5–14 years 2021',  'Stillbirth rate 2000', 'Stillbirth rate 2021',  'Annual rate of reduction in stillbirth rate 2000-2021',  'Under-five deaths 2021', 'Neonatal deaths 2021',  'Neonatal deaths as a percentage of under-five deaths 2021',  'Deaths among children aged 5–14 years 2021', 'Stillbirths 2021'] | Countries and areas  Under-five mortality rate 1990  Under-five mortality rate 2000  Under-five mortality rate 2021  Annual rate of reduction in under-five mortality rate 2000-2021  Under-five mortality rate Male 2021  Under-five mortality rate Female 2021  Infant mortality rate 1990  Infant mortality rate 2021  Neonatal mortality rate 1990  Neonatal mortality rate 2000  Neonatal mortality rate 2021  Mortality rate among children aged 5–14 years 1990  Mortality rate among children aged 5–14 years 2021  Stillbirth rate 2000  Stillbirth rate 2021  Annual rate of reduction in stillbirth rate 2000-2021  Under-five deaths 2021  Neonatal deaths 2021  Neonatal deaths as a percentage of under-five deaths 2021  Deaths among children aged 5–14 years 2021  Stillbirths 2021 |
| --- | --- |