**This is the last project for the python for data analysis class**

**Note: attempt this work diligently and pay attention to details as this is a very important factor:**

**General Overview of the project**

Child and infant mortality rates remain a critical issue in Africa, impeding progress toward several

Sustainable Development Goals (SDGs), including Goal 3: Good Health and Well-being. By leveraging

data-driven approaches, this hackathon aims to identify actionable insights, develop innovative

solutions, and contribute to global efforts to reduce preventable deaths in children under five years of age.

**Objective**

The primary objective is to utilize the provided datasets to uncover patterns, correlations, and key drivers of child and infant mortality in African countries. Participants will propose data-driven strategies and interventions that policymakers, healthcare providers, and organizations can adopt to improve health outcomes for children.

1. Identify socioeconomic, healthcare, and environmental factors contributing to high mortality

rates.

2. Propose actionable recommendations to address gaps in vaccination coverage, healthcare

access, and maternal support.

3. Present insights in a format that is accessible to policymakers and stakeholders

**Dataset Overview**

The datasets provided for this project include:

1. Health Protection Coverage: Percentage of populations covered by health

insurance.

2. Global Vaccination Coverage: Vaccination rates for various diseases among

children.

3. Births Attended by Skilled Health Staff: The percentage of births assisted by skilled

healthcare providers.

4. Maternal Deaths by Region: Estimated maternal deaths by region and year.

5. Child Mortality by Income Level: Under-five mortality rates across different

income-level countries.

6. Infant Deaths: Annual number of infant deaths by country.

7. Youth Mortality Rates: Mortality rates for individuals under 15.

8. Causes of Death in Children Under Five: Breakdown of major causes of death

among young children.

Link to the dataset: https://drive.google.com/file/d/1myW9sMtrkFT11kmtS8w5\_Mwc\_DlyWv6H/view

**DATA DICTIONARY**

**1. Health Protection Coverage**

**Entity Name of the country or region.**

**Code Country code (ISO 3-letter format).**

**Year Year of observation.**

**Share of population covered by health insurance: Percentage of the population covered by health insurance.**

**2. Global Vaccination Coverage**

**Entity Name of the country or region.**

**Code Country code (ISO 3-letter format).**

**Year Year of observation.**

**BCG (% of one-year-olds immunized) : Percentage of one-year-olds immunized with BCG vaccine.**

**HepB3 (% of one-year-olds immunized) : Percentage of one-year-olds immunized with Hepatitis B vaccine.**

**Hib3 (% of one-year-olds immunized) : Percentage of one-year-olds immunized with Haemophilus influenzae B.**

**IPV1 (% of one-year-olds immunized) : Percentage of one-year-olds immunized with Inactivated Polio Vaccine.**

**MCV1 (% of one-year-olds immunized) : Percentage of one-year-olds immunized with Measles vaccine (1st dose).**

**PCV3 (% of one-year-olds immunized): Percentage of one-year-olds immunized with Pneumococcal conjugate vaccine.**

**Pol3 (% of one-year-olds immunized)**

**Percentage of one-year-olds immunized with Polio vaccine (3rd dose).**

**RCV1 (% of one-year-olds immunized)**

**Percentage of one-year-olds immunized with Rubella vaccine.**

**RotaC (% of one-year-olds immunized)**

**Percentage of one-year-olds immunized with Rotavirus vaccine.**

**YFV (% of one-year-olds immunized)**

**Percentage of one-year-olds immunized with Yellow Fever vaccine.**

**DTP3 (% of one-year-olds immunized)**

**Percentage of one-year-olds immunized with Diphtheria, Tetanus, and Pertussis**

**3. Births Attended by Health Staff**

**Entity: Name of the country or region.**

**Code Country: code (ISO 3-letter format).**

**Year: Year of observation.**

**Births attended by skilled health staff (%): Percentage of total births attended by skilled health staff.**

**4. Maternal Deaths by Region**

**Entity: Name of the country or region.**

**Code Country code: (ISO 3-letter format).**

**Year: Year of observation.**

**Estimated maternal deaths: Estimated number of maternal deaths in the given year.**

**5. Child Mortality by Income Level**

**Entity: Name of the country or region.**

**Code Country: code (ISO 3-letter format).**

**Year: Year of observation.**

**Under-five mortality rate: Number of deaths of children under five years per 100 livebirths.**

**6. Infant Deaths**

**Entity: Name of the country or region.**

**Code Country: code (ISO 3-letter format).**

**Year: Year of observation.**

**Deaths - Sex: all - Age: 0: Total number of infant deaths (age 0) for the given year.**

**7. Youth Mortality Rate**

**Entity: Name of the country or region.**

**Code : Country code (ISO 3-letter format).**

**Year: Year of observation.**

**Under-fifteen mortality rate: Number of deaths per 1,000 live births for children under 15years.**

**8. Causes of Death in Children Under Five**

**IndicatorCode : Indicator code for the specific cause of death**

**Indicator : Description of the cause of death**

**ValueType : Type of the value (e.g., numeric, percentage)**

**ParentLocationCode: Code for the parent region**

**ParentLocation: Name of the parent region**

**Location: Name of the country**

**Type: Classification type**

**SpatialDimValueCode: Spatial dimension code for the country**

**Period: Year of data collection**

**FactValueNumericHigh: Upper bound of the estimated value**

**FactValueNumericLow: Lower bound of the estimated value**

**FactValueTranslationID: Translation ID for value**

**FactComments: Comments or notes related to the fact**

**Language: Language of the record**