**Project Overview: Global Development Insights (Using SQL)**

**Overview**

This project simulates the work of an NGO, *Global Development Insights*, which analyses population and development metrics to identify trends, guide humanitarian aid, and support sustainable development initiatives. The goal of this self-guided project, sourced from Khan Academy, was to practise advanced SQL skills by tackling challenges relevant to real-world global development work.

The project centres on extracting insights from a dataset of global population statistics. These insights could be used to inform policy decisions, target interventions, and identify regions requiring additional resources. Through various queries and analyses, I explored key metrics such as population growth, migration patterns, fertility rates, and population density.

**Purpose**

The aim of this project was twofold:

1. **Skill Development**: To strengthen my SQL expertise, specifically in using advanced techniques like subqueries, grouping, filtering, and CASE statements.
2. **Real-World Application**: To simulate the analytical tasks an NGO might undertake, such as uncovering global development trends to support humanitarian efforts and policy recommendations.

**Questions Explored**

The analysis answered the following key questions, demonstrating the versatility of SQL in handling large datasets:

1. What are the average, maximum, and minimum values for population-related metrics?
2. How do these metrics vary across different groups or categories?
3. What new groupings can be created to categorise countries by population size, density, or fertility rates?
4. How can filters help identify specific subsets of countries for targeted analysis?

**Dataset**

The dataset, cleaned and structured for analysis, includes the following columns:

* **Population**: Total population of a country/territory.
* **% One-Year Change**: Annual percentage population growth or decline.
* **Population Change**: Total change in population.
* **Density per Sq Km**: Population density per square kilometre.
* **Area Sq Km**: Total area in square kilometres.
* **Net Migrants**: Net migration figures.
* **Fertility Rate**: Average number of children born per woman.
* **Median Age**: Median age of the population.
* **% of World Population**: Proportion of global population represented by the country/territory.

**Key Insights**

Through SQL queries, I uncovered:

* Countries with the highest and lowest population metrics, highlighting disparities.
* Trends in fertility rates and migration patterns, which can guide resource allocation.
* New groupings based on population density and size, offering actionable insights for NGOs.
* Specific countries contributing significantly to global trends or experiencing unique challenges, such as high density with low fertility rates.

**Key Figures and Insights from the Analysis:**

* **Highest Population**: China with 1.44 billion people, representing 18.47% of the world's population.
* **Smallest Population**: Antigua and Barbuda with just 97,929 people.
* **Global Averages**:
  + **Population**: 38.77 million per country.
  + **Fertility Rate**: 3.0 children per woman.
  + **Population Density**: 359 people per square kilometre.
* **Highest Fertility Rates**:
  + DR Congo: 6 children per woman.
  + Nigeria: 5.4 children per woman.
* **Density Highlights**:
  + **Most Dense**: Bangladesh at 1,265 people per square kilometre.
  + **Least Dense**: Aruba at 593 people per square kilometre.
* **Growth and Migration Trends**:
  + DR Congo exhibited the highest percentage growth rate at 3.19%.
  + Turkey experienced the most significant net positive migration with 283,922 migrants.
  + China faced a significant net negative migration trend.

**Practical Applications**

*Global Development Insights* could use these analyses to:

* Identify countries requiring immediate support due to rapid population growth, migration pressures, or high fertility rates.
* Guide sustainable development initiatives, such as improving infrastructure in dense regions.
* Develop policies to address demographic challenges, such as ageing populations or declining fertility.

**File Contents**

This project repository includes the following files:

1. **countries\_and\_territories.sql**: The cleaned dataset used for analysis.
2. **sql\_queries\_and\_questions.docx**: A comprehensive list of the SQL queries and the questions they address.
3. **project\_overview.docx**: This document, providing a detailed summary of the project.
4. **README.md**: A summary of the project for quick reference on GitHub.

This project showcases my ability to use SQL for advanced data analysis, tackling challenges relevant to NGOs and global development work. It demonstrates not only technical skills but also an understanding of how data-driven insights can guide meaningful action.