Global Life Expectancy Trends Analysis using SQL

* By Devanshi Shah

Problem Statement

**Executive Summary:**  
The World Life Expectancy Analysis project aimed to evaluate trends and changes in global life expectancy. The goal was to clean and analyse the dataset containing life expectancy data for different countries across various years. The project involved two key steps: first, cleaning the dataset by removing duplicates and ensuring data integrity; second, conducting an exploratory data analysis to identify trends, such as the increase in life expectancy over the past 15 years. The cleaned data was analysed for patterns that provide insights into global healthcare progress, economic conditions, and living standards. The findings were intended to offer recommendations on how life expectancy can continue to improve globally, with a focus on factors like healthcare, economic growth, and aging populations.  
  
**Data Description:**

The dataset used in the analysis was sourced from a world life expectancy database, which includes data for multiple countries from various years. The data features columns such as Country, Year, Life\_expectancy, and unique identifiers. Data was cleaned to ensure that there were no duplicate entries for the same country and year combination, with steps taken to remove any erroneous data points.

## Key Data Columns:

## Country: The country for which life expectancy data is recorded.

## Year: The year in which the data was collected.

## Life\_expectancy: The average life expectancy in that year for the country.

## The analysis focused on life expectancy trends from 2007 to 2015, examining increases in life expectancy and their implications for global health and economic development.

## Findings and Recommendations:

Based on data cleaning and exploratory data analysis, the following findings and recommendations were made:

1. **Data Integrity**: It was crucial to remove duplicate entries in the dataset to ensure accurate insights. The cleaning process identified and removed duplicates based on combinations of Country and Year.
2. **Life Expectancy Trends**: From 2007 to 2015, there was a noticeable increase in life expectancy across most countries. The average life expectancy increased by 6 years over the 15-year period, reflecting improvements in healthcare, living conditions, and economic growth. This increase demonstrates the effectiveness of global health initiatives but also highlights challenges related to aging populations in various countries.
3. **Country-Specific Increases:** The analysis of life expectancy changes from 2007 to 2015 showed varying increases across countries. Countries with higher increases in life expectancy are likely benefiting from stronger healthcare systems, economic growth, and better living conditions. It is recommended that countries continue to invest in these areas to maintain positive growth in life expectancy.
4. **Health and Economic Impacts:** The 6-year rise in life expectancy is a significant achievement, particularly in developing countries. It suggests that ongoing healthcare advancements and economic development have a direct positive impact on life expectancy. However, as life expectancy continues to rise, countries will need to prepare for the challenges of an aging population, including increased healthcare costs and pension obligations.
5. **Further Analysis:** To identify the specific factors driving these trends, further analysis could be conducted to correlate life expectancy increases with variables such as healthcare expenditure, education, sanitation, and lifestyle factors. This deeper analysis would provide more actionable insights for policymakers and health organizations globally.