# Life Expectancy Data Analysis using SQL

## Overview

This document outlines the SQL tasks I performed using MySQL Workbench for the analysis of life expectancy data. These tasks involve the creation of a database and execution of various queries to extract, aggregate, and analyze data from different CSV files.

## Tool Used

MySQL Workbench: A visual database design tool that integrates SQL development, administration, database design, creation, and maintenance into a single integrated development environment (IDE).

## Queries and Descriptions

### 1. Database Creation

CREATE DATABASE LifeExpectancy;  
USE LifeExpectancy;

Purpose: Creates a new database named 'LifeExpectancyDB' and sets it as the current working database.

### 2. Data Import and Selection

Importing data from CSV files into corresponding tables and selecting all data from each.

#### WHO Region Life Expectancy at Birth

SELECT \* FROM LifeExpectancy.who\_region\_life\_expectancy\_at\_birth;

#### Life Expectancy at Birth (CSV)

SELECT \* FROM LifeExpectancy.life\_expectancy\_at\_birth\_cav;

#### HALE WHO Region Life Expectancy at Birth

SELECT \* FROM LifeExpectancy.hale\_who\_region\_life\_expectancy\_at\_birth;

#### HALE Life Expectancy at Birth

SELECT \* FROM LifeExpectancy.hale\_life\_expectancy\_at\_birth;

### 3. Aggregated Data Analysis

SELECT Period, gender, COUNT(\*) as total\_count  
FROM (  
 SELECT Period, gender FROM hale\_life\_expectancy\_at\_birth  
 UNION ALL  
 SELECT Period, gender FROM hale\_who\_region\_life\_expectancy\_at\_birth  
 UNION ALL  
 SELECT Period, gender FROM life\_expectancy\_at\_birth\_cav  
 UNION ALL  
 SELECT Period, gender FROM who\_region\_life\_expectancy\_at\_birth  
) AS combined  
GROUP BY Period, gender;

Purpose: Aggregates data to analyze life expectancy trends by period and gender.

### 4. Location and Gender Based Analysis

SELECT location, gender, COUNT(\*) as total\_count  
FROM (  
 SELECT location, gender FROM hale\_life\_expectancy\_at\_birth  
 UNION ALL  
 SELECT location, gender FROM hale\_who\_region\_life\_expectancy\_at\_birth  
 UNION ALL  
 SELECT location, gender FROM life\_expectancy\_at\_birth\_cav  
 UNION ALL  
 SELECT location, gender FROM who\_region\_life\_expectancy\_at\_birth  
) AS combined  
GROUP BY location, gender;

Purpose: Analyzes life expectancy data based on location and gender.

### 5. Average Life and HALE Expectancy Calculation

SELECT ROUND(AVG(Hale\_Expectency), 2) AS average\_hale\_expectancy,   
 ROUND(AVG(Life\_expectancy), 2) AS average\_life\_expectancy  
FROM (  
 SELECT Hale\_Expectency, Life\_expectancy FROM hale\_who\_region\_life\_expectancy\_at\_birth  
 -- Include other tables with UNION ALL if needed  
) AS combined\_data;

Purpose: Calculates the average Life Expectancy and Health-Adjusted Life Expectancy (HALE).