**2. Economic Performance Analysis**

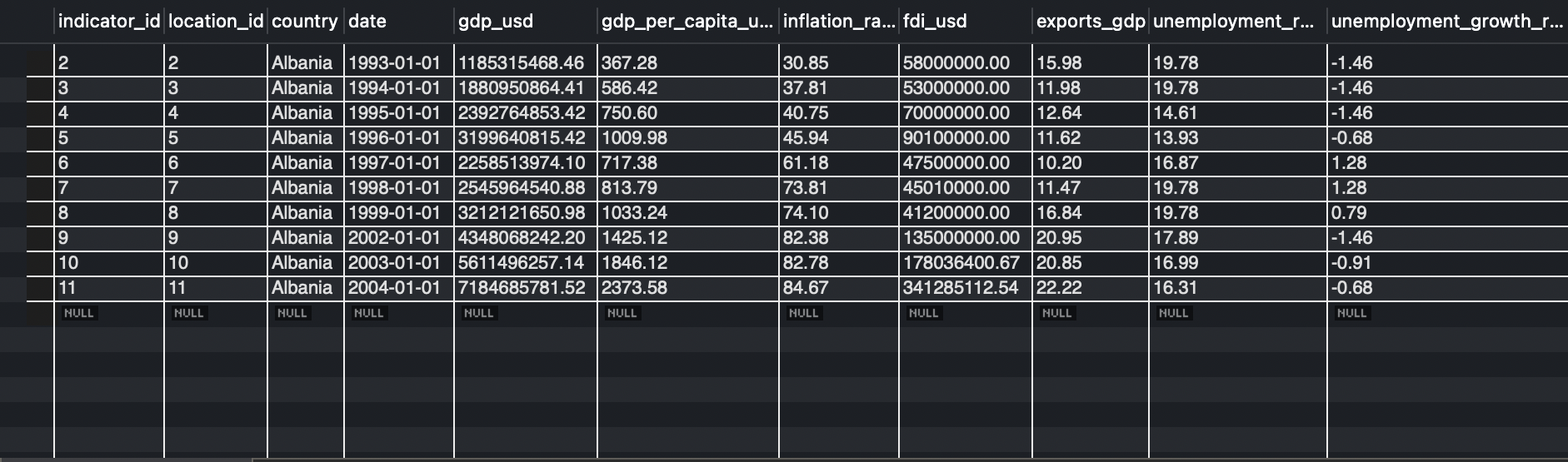
USE world\_bank\_data;

-- Retrieve all data from economic\_indicators table

SELECT \*

FROM economic\_indicators

LIMIT 10;



**Explanation:** Retrieves the first 10 rows from the economic\_indicators table to get an initial view of the data structure and sample values.

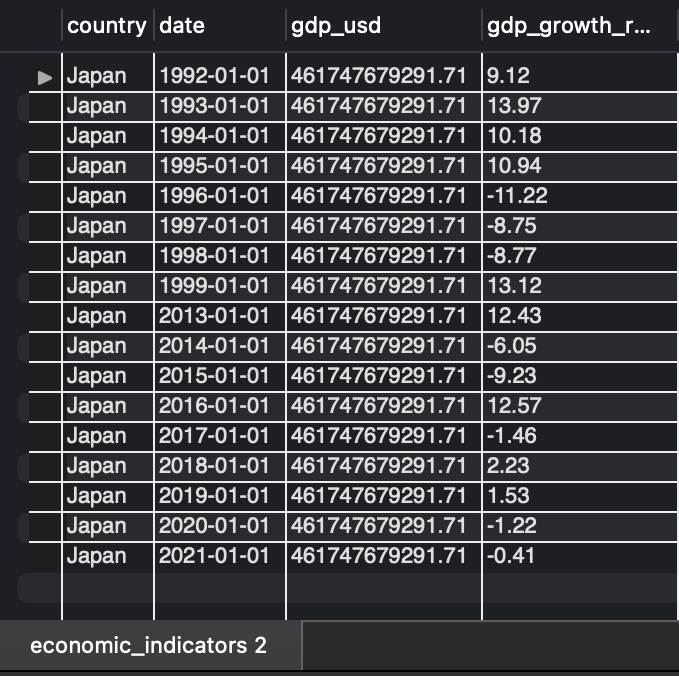
-- Retrieve GDP and GDP Growth Rate for a Specific Country

SELECT country, date, gdp\_usd, gdp\_growth\_rate

FROM economic\_indicators

WHERE country = 'Japan'

ORDER BY date;



**Explanation:** Fetches the GDP and GDP growth rate over time specifically for Japan, allowing us to observe economic trends for this country.

-- View for GDP and GDP Growth Rate

CREATE VIEW gdp\_growth\_country AS

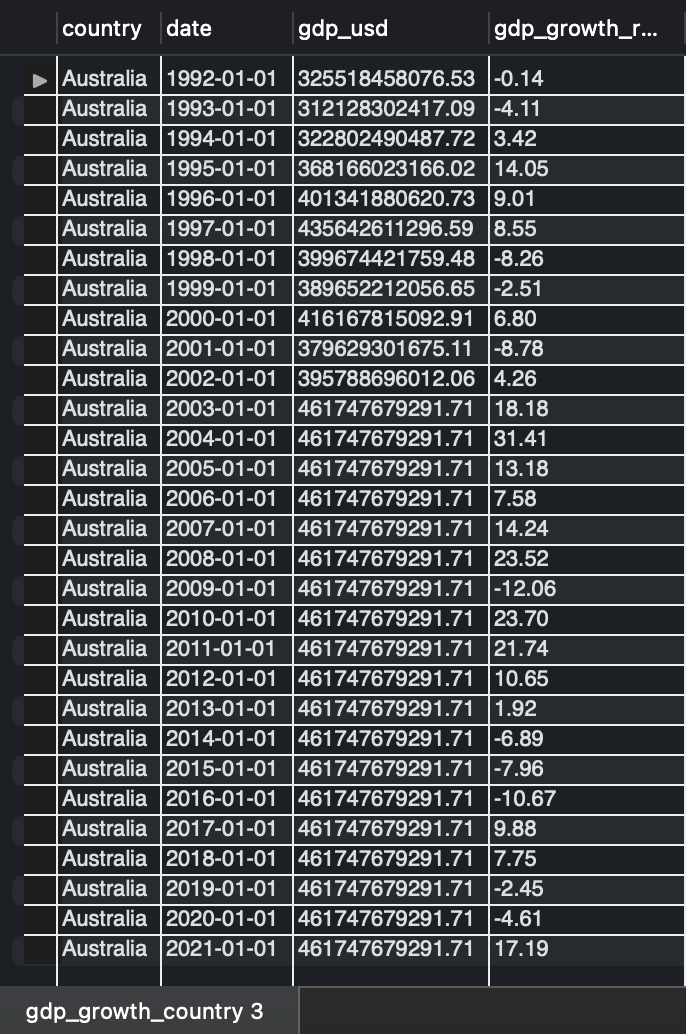
SELECT country, date, gdp\_usd, gdp\_growth\_rate

FROM economic\_indicators

ORDER BY date;

-- Using VIEW for specific country

SELECT \* FROM gdp\_growth\_country WHERE country = 'Australia';



**Explanation:** Creates a view named gdp\_growth\_country that captures GDP and GDP growth rate data for all countries. You can query this view with filters to focus on specific countries without repeatedly writing the same query.

-- Get Average GDP by Year across all countries

SELECT YEAR(date) AS year, AVG(gdp\_usd) AS avg\_gdp

FROM economic\_indicators

GROUP BY year

ORDER BY year;



**Explanation:** Calculates the average GDP for each year, providing insights into global economic trends over time.

-- Average GDP Growth Rate by Region

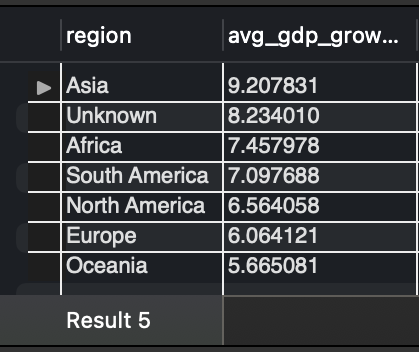
SELECT region, AVG(gdp\_growth\_rate) AS avg\_gdp\_growth

FROM economic\_indicators

JOIN locations ON economic\_indicators.location\_id = locations.location\_id

GROUP BY region

ORDER BY avg\_gdp\_growth DESC;



**Explanation:** Calculates the average GDP growth rate by region, allowing comparison of economic growth across different regions.

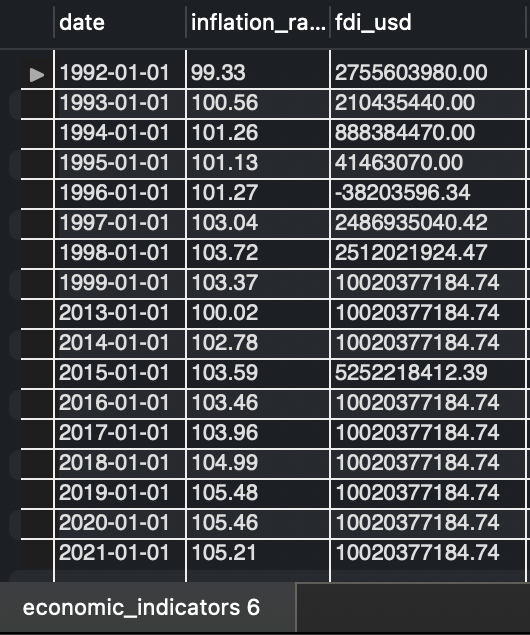
-- Inflation and FDI Trends for Japan

SELECT date, inflation\_rate, fdi\_usd

FROM economic\_indicators

WHERE country\_name = 'Japan'

ORDER BY date;



**Explanation:** Retrieves the inflation rate and foreign direct investment (FDI) data for Japan over time, helping to analyze economic stability and international investment trends.

-- View for Inflation and FDI Trends

CREATE VIEW inflation\_fdi\_country AS

SELECT date, country, inflation\_rate, fdi\_usd

FROM economic\_indicators

ORDER BY date;

-- Using View for inflation

SELECT \* FROM inflation\_fdi\_country WHERE country = 'Germany';



**Explanation:** Creates a view named inflation\_fdi\_country to streamline retrieval of inflation and FDI data for various countries.

-- Total Exports as % of GDP by Year for Asia

SELECT YEAR(date) AS year, AVG(exports\_gdp) AS avg\_exports\_gdp

FROM economic\_indicators

JOIN locations ON economic\_indicators.location\_id = locations.location\_id

WHERE region = 'Asia'

GROUP BY year

ORDER BY year;



**Explanation:** Computes the average exports as a percentage of GDP for Asia, revealing the region’s dependency on international trade over time.

-- View for Total Exports as % of GDP by Year

CREATE VIEW exports\_gdp\_region AS

SELECT YEAR(date) AS year, region, AVG(exports\_gdp) AS avg\_exports\_gdp

FROM economic\_indicators

JOIN locations ON economic\_indicators.location\_id = locations.location\_id

GROUP BY year, region

ORDER BY year;

-- Using View

SELECT \* FROM exports\_gdp\_region WHERE region = 'Europe';



**Explanation:** Creates a view exports\_gdp\_region to make it easier to track exports as a percentage of GDP by region over time.

-- Stored Procedure for Top N Countries by GDP

DELIMITER //

CREATE PROCEDURE GetTopCountriesByGDP(IN top\_n INT)

BEGIN

SELECT country, gdp\_usd

FROM economic\_indicators

WHERE date = (SELECT MAX(date) FROM economic\_indicators)

ORDER BY gdp\_usd DESC

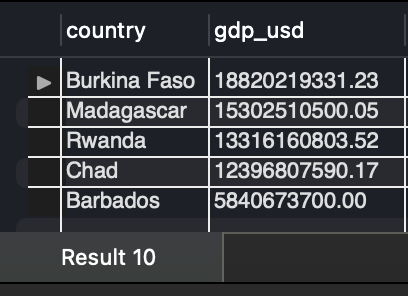
LIMIT top\_n;

END //

DELIMITER ;

-- Call Stored Procedure for the top 5 countries by GDP

CALL GetTopCountriesByGDP(5);



**Explanation:** Retrieves the top N countries by GDP for the most recent year. This helps to identify the largest economies based on GDP.

-- Stored Procedure for Average Inflation by Year for a specific country

DELIMITER //

CREATE PROCEDURE GetAvgInflationByCountry(IN country VARCHAR(50))

BEGIN

SELECT YEAR(date) AS year, AVG(inflation\_rate) AS avg\_inflation

FROM economic\_indicators

WHERE country = country

GROUP BY year

ORDER BY year;

END //

DELIMITER ;

-- Calling stored procedure

CALL GetAvgInflationByCountry('Germany');



**Explanation:** Calculates the average inflation rate by year for a specified country, helping to analyze inflation trends over time.

-- Function 1: to Calculate GDP per Capita Growth Rate

DELIMITER //

CREATE FUNCTION GetGDPPerCapitaGrowthRate(country VARCHAR(50),year\_val INT)

RETURNS DECIMAL(5,2)

DETERMINISTIC

BEGIN

DECLARE gdp\_curr DECIMAL(15,2);

DECLARE gdp\_prev DECIMAL(15,2);

DECLARE growth\_rate DECIMAL(5,2);

-- Get GDP per capita for the specified yea

SELECT gdp\_per\_capita\_usd INTO gdp\_curr

FROM economic\_indicators

WHERE country = country AND YEAR(date) = year\_val

LIMIT 1;

-- Get GDP per capita for the previous year

SELECT gdp\_per\_capita\_usd INTO gdp\_prev

FROM economic\_indicators

WHERE country = country AND YEAR(date) = year\_val - 1

LIMIT 1;

-- Calculate growth rate

SET growth\_rate = ((gdp\_curr - gdp\_prev) / gdp\_prev) \* 100;

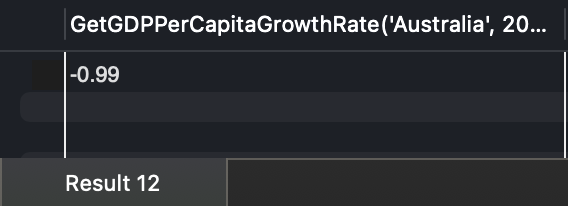
RETURN growth\_rate;

END //

DELIMITER ;

-- Use this function

SELECT GetGDPPerCapitaGrowthRate('Australia', 2020);



**Explanation:** Calculates the GDP per capita growth rate for a specific country and year, useful for tracking changes in average wealth or productivity.

-- Function 2: to get average inflation rate for certain country

DELIMITER //

CREATE FUNCTION GetAvgInflation(country VARCHAR(50))

RETURNS DECIMAL(5,2)

DETERMINISTIC

BEGIN

DECLARE avg\_inflation DECIMAL(5,2);

-- Calculate average inflation

SELECT AVG(inflation\_rate) INTO avg\_inflation

FROM economic\_indicators

WHERE country = country;

RETURN avg\_inflation;

END //

DELIMITER ;

-- Use this function

SELECT GetAvgInflation('Japan');



**Explanation:** Computes the average inflation rate for a specified country, helpful for understanding economic stability.

-- Function 3: to calculate year-over-year GDP growth rate

DELIMITER //

CREATE FUNCTION GetYoYGDPGrowth(country VARCHAR(50),year\_val INT)

RETURNS DECIMAL(5,2)

DETERMINISTIC

BEGIN

DECLARE gdp\_curr DECIMAL(15,2);

DECLARE gdp\_prev DECIMAL(15,2);

DECLARE growth\_rate DECIMAL(5,2);

-- Get GDP for the specified year

SELECT gdp\_usd INTO gdp\_curr

FROM economic\_indicators

WHERE country = country AND YEAR(date) = year\_val

LIMIT 1;

-- Get GDP for the previous year

SELECT gdp\_usd INTO gdp\_prev

FROM economic\_indicators

WHERE country = country AND YEAR(date) = year\_val - 1

LIMIT 1;

-- CALCULATE growth rate

SET growth\_rate = ((gdp\_curr - gdp\_prev) / gdp\_prev) \* 100;

RETURN growth\_rate;

END //

DELIMITER ;

-- Use this function

SELECT GetYoYGDPGrowth('Canada',2020);



**Explanation:** Calculates the year-over-year GDP growth rate for a specific country, indicating economic growth trends.