



**GLOBAL ACADEMY OF  
MATHEMATICAL AND ECONOMIC  
SCIENCES**

*October 2021*

**SQL PORTFOLIO PROJECT**  
Exploratory Data Analysis on International  
Debt Data Using SQL

**COURSE: DATA AND BA FOUNDATIONS**

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**Track: Business Analyst**

# Introduction

The purpose of this project is to help build problem-solving, critical thinking and also introduce us to real-life problems and find solutions for them. The project is also aimed at highlighting the skills and knowledge obtained during the course and how to apply this in a prospective workplace.

## Professional Background

College graduate passionate about studying how to improve performance. Seeking to leverage analytical skills to improve corporate performance as a data analyst.

- Power use of Excel, PostgreSQL, Tableau and Power BI to analyse business problems and create solutions.
- Strong communication and creative problem-solving skills, with the ability to communicate complex ideas.
- A great team player.

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# About The Data

## Project Description

Financial flows, foreign debt developments, and other significant financial indicators for low- and middle-income nations are the focus of this dataset. For most reporting countries, there are over 200 time series indicators from 1970 to 2016, as well as pipeline data for scheduled debt service payments on current commitments through 2024.



# Data Ingestion

## Design

- The data gotten from Kaggle was in a “.csv” format, it wasn’t cleaned even though it contained blank cells but was loaded directly on SQLite.
- First, a database was created by clicking on “Database” or “Ctrl + O” then “Add a database” where you name the database and “Test connection”. If the database was successfully created, it would be seen in the left-hand “Databases” window.
- To import the data gotten into the database, click on “Import”, type the name of the new table, select data source as a “csv” file, select the downloaded “csv” file, tick the field “first line represents “csv” column names” and import the data. The data imported should be seen in the left-hand “Table” window. Double click and start exploring the data.
- The number of rows loaded per page was 833 and this is due to the number of columns in the data view.
- SQLite was used for data exploration. SQLite was used because it is fast, simple and user-friendly.

# Analysis And Results

## QUESTION 1 - “Computing the number of distinct countries”

The data had 29,104 rows, each containing different information about different countries. This query was aimed at computing the number of distinct countries.

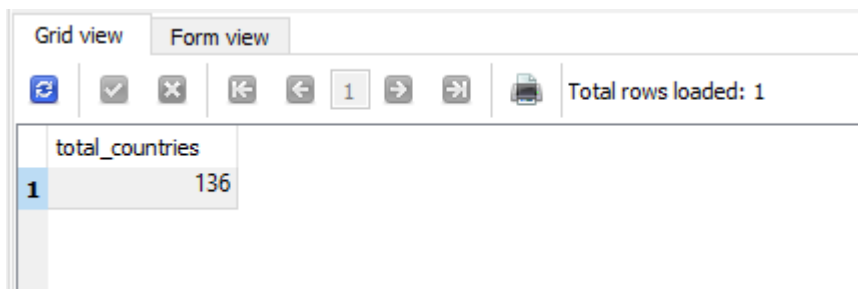
### Query

```
SELECT COUNT(DISTINCT "Country Name") AS total_countries  
FROM project_table
```

### Result

The number of distinct countries gotten from the data was 136.

**Fig 1: Table showing the number of distinct countries**



	total_countries
1	136

## QUESTION 2

### i) “Computing the total number of unique indicator codes”

There are two columns in the data called “Indicator Name” which briefly specifies the purpose of taking a loan and the “Indicator Code” which symbolizes the category of these debts.

This query was aimed at computing the total number of unique indicator codes.

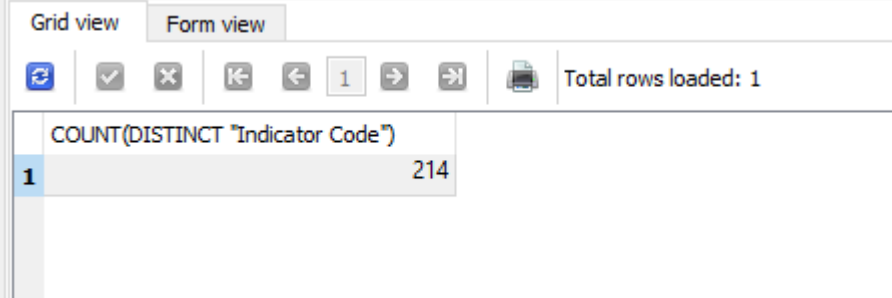
#### Query

```
SELECT COUNT(DISTINCT "Indicator Code") AS distinct_indicator  
FROM project_table
```

#### Result

The number of unique indicator code gotten from the data was 214.

**Fig 2: Table showing the number of distinct indicator codes**



The screenshot shows a database query result viewer. At the top, there are tabs for "Grid view" and "Form view". Below the tabs is a toolbar with various icons for actions like refresh, save, delete, and navigation. To the right of the toolbar, it says "Total rows loaded: 1". The main area displays a table with one row. The first column is labeled "COUNT(DISTINCT 'Indicator Code')" and the second column contains the value "214".

COUNT(DISTINCT "Indicator Code")
214

### ii) “Retrieving the unique indicator codes”

After getting the total number of unique indicator codes, a query was written to retrieve all the unique indicator codes.

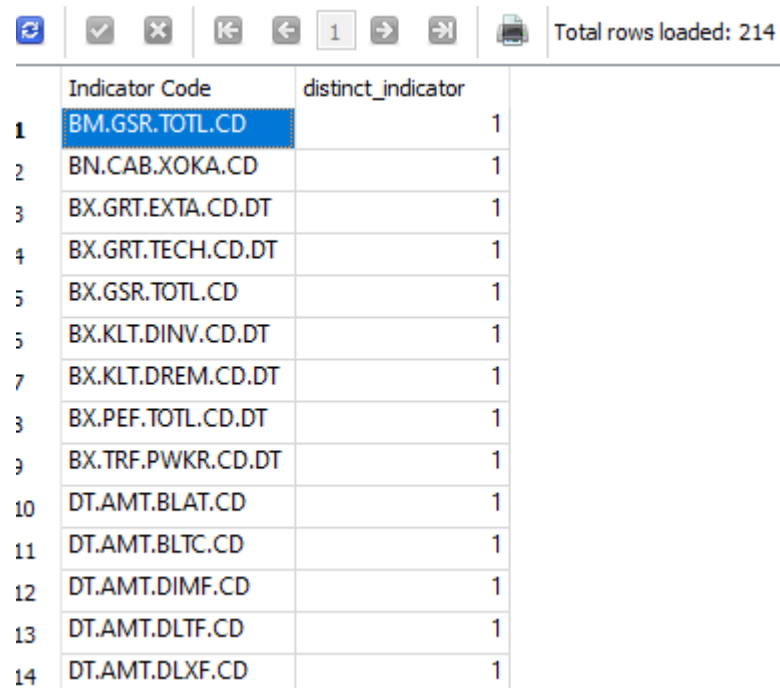
## Query

```
SELECT "Indicator Code", COUNT(DISTINCT "Indicator Code") AS  
distinct_indicator  
FROM project_table  
GROUP BY "Indicator Code"
```

## Result

The total rows loaded was also 214 but instead of getting just the total numbers, we got the indicator names as well.

**Fig 3: Table showing distinct indicator codes**



The image shows a table interface with a toolbar at the top. The toolbar includes icons for refresh, check, close, first, previous, page 1, next, last, and print. To the right of the toolbar, it says "Total rows loaded: 214". The table has two columns: "Indicator Code" and "distinct\_indicator". The first row is highlighted in blue. The rows are numbered 1 through 14 on the left side of the table.

	Indicator Code	distinct_indicator
1	BM.GSR.TOTL.CD	1
2	BN.CAB.XOKA.CD	1
3	BX.GRT.EXTA.CD.DT	1
4	BX.GRT.TECH.CD.DT	1
5	BX.GSR.TOTL.CD	1
5	BX.KLT.DINV.CD.DT	1
7	BX.KLT.DREM.CD.DT	1
3	BX.PEF.TOTL.CD.DT	1
3	BX.TRF.PWKR.CD.DT	1
10	DT.AMT.BLAT.CD	1
11	DT.AMT.BLTC.CD	1
12	DT.AMT.DIMF.CD	1
13	DT.AMT.DLTF.CD	1
14	DT.AMT.DLXF.CD	1

### **QUESTION 3 - “Computing the total debt owed by all countries in given years”**

The query was aimed at computing the total debt owed by all countries in each of the following years: 2000, 2001, 2002, 2007, 2008, 2009, 2013, 2014, 2015, 1998.

#### **Query**

```
SELECT "Country Name", "Country Code",  
SUM("2000") AS total_debt_2000,  
SUM("2001") AS total_debt_2001,  
SUM("2007") AS total_debt_2007,  
SUM("2008") AS total_debt_2008,  
SUM("2009") AS total_debt_2009,  
SUM("2013") AS total_debt_2013,  
SUM("2014") AS total_debt_2014,  
SUM("2015") AS total_debt_2015,  
SUM("1998") AS total_debt_1998,  
SUM("2000" + "2001" + "2002" + "2007" + "2008" + "2009" + "2013" +  
"2014" + "2015" + "1998") AS total_debt  
FROM project_table  
GROUP BY "Country Name"
```

#### **Result**

The total debt owed by all countries in each year was returned in 136 rows, with the columns Country Name, Country Code and Total debt per year.

**Fig 4: Table showing debt owed by all countries in each year**

Grid view		Form view				
		Total rows loaded: 136				
	Country Name	Country Cc	total_debt_2000	total_debt_2001	total_debt_2007	total_debt_2008
1	Afghanistan	AFG	0	0	37249731723.26132	45165864236.84
2	Albania	ALB	19709145269.844032	20059823000.917667	49870914978.465965	73064193825.57
3	Algeria	DZA	274998677395.5176	260288852500.34518	438151937862.75806	547313718653.10
4	Angola	AGO	110950323781.43468	101769991764.64325	368943375076.8204	449991684710.51
5	Argentina	ARG	1570895801321.3284	1326678401827.18	1367333337912.7463	1537229177776.
6	Armenia	ARM	12318259840.767673	16644609955.739687	53202345588.61716	59374994081.21
7	Azerbaijan	AZE	26455985614.20929	23970491640.80725	128029003928.60893	176884862508.57
8	Bangladesh	BGD	229209688713.2359	222508823616.56067	346086736179.9869	404297120413.97
9	Belarus	BLR	40948426951.016594	45282425975.78814	235453059526.60437	265979226550.36
10	Belize	BLZ	10489684448.47495	9886004387.498762	21234627293.841816	14224626380.95
11	Benin	BEN	17125742307.126938	19644740842.40072	22826750951.53829	25006447769.28
12	Bhutan	BTN	3430278476.041197	4264670324.4719377	15412096646.002254	11453697538.074
13	Bolivia	BOL	69008149598.71666	59643446303.97767	85121634653.46185	105655376667.52
14	Bosnia and Herzegovina	BIH	40174853259.07066	39794070646.53452	150740924669.75497	153750859024.4

## QUESTION 4 - “Computing the total debt owed by Nigeria in given years”

The query was aimed at computing the total debt owed by Nigeria in each of the following years: 1997, 1999, 2006, 2007, 2015, 2016.

### Query

```
SELECT "Country Name", "Country Code",  
SUM("1997") AS total_debt_1997,  
SUM("1999") AS total_debt_1999,  
SUM("2006") AS total_debt_2006,  
SUM("2007") AS total_debt_2007,  
SUM("2015") AS total_debt_2015,  
SUM("2016") AS total_debt_2016,  
SUM("1997" + "1999" + "2006" + "2007" + "2015" + "2016")  
AS total_nig_debt  
FROM project_table  
WHERE "Country Name" = "Nigeria"
```

### Result

The total debt owed by Nigeria in each year was returned in 1 row with the columns Country Name, Country Code and Total debt per year.

**Fig 5: Table showing total debt owed by Nigeria in each year**

Grid view		Form view						
				Total rows loaded: 1				
Country Name	Country Code	total_debt_1997	total_debt_1999	total_debt_2006	total_debt_2007	total_debt_2015	total_debt_2016	total_nig_debt
1 Nigeria	NGA	277543825011.1933	274442910358.52765	445354754247.9998	537627033261.4689	956088746354.7334	845358580054.9915	333641

## **QUESTION 5 - “Computing the maximum debt owed by Nigeria in given years”**

The query was aimed at computing the maximum debt owed by Nigeria in each of the following years: 2007, 2008, 2009.

### **Query 1**

COALESCE is used to avoid interference by null/empty rows

```
SELECT "Country Name", "Country Code",  
MAX("2007") AS max_2007,  
MAX("2008") AS max_2008,  
MAX("2009") AS max_2009,  
MAX (  
MAX(COALESCE("2007", 0)),  
MAX(COALESCE("2008", 0)),  
MAX(COALESCE("2009", 0))  
)AS max_nig_debt  
FROM project_table  
WHERE "Country Name" = "Nigeria"
```

### **Query 2**

```
SELECT "Country Name", "Country Code", MAX("2007") AS max_2007,  
MAX("2008") AS max_2008,  
MAX("2009") AS max_2009,  
MAX("2007", "2008", "2009") AS max_nig_debt  
FROM project_table
```



WHERE "Country Name" = "Nigeria"

ORDER BY "Country Name" = "Nigeria" + 0 DESC


## Result


The maximum debt owed by Nigeria in each year was returned in 1 row with the columns Country Name, Country Code and maximum debt per year with the year 2008 having the highest maximum debt.


**Fig 6: Table showing maximum debt owed by Nigeria in each year**


Grid view

Form view











1





Total rows loaded: 1

Country Nar	Country Cox	max_2007	max_2008	max_2009	max_nig_de
1 Nigeria	NGA	96429000	986098000	985000000	986098000

## QUESTION 6 - “Computing the minimum debt owed by Nigeria in given years”

The query was aimed at computing the minimum debt owed by Nigeria in each of the following years: 2007, 2008, 2009.

### Query

```
SELECT "Country Name", "Country Code", "2007", "2008", "2009",  
MIN("2007", "2008", "2009") AS min_nig_debt  
FROM project_table  
WHERE "Country Name" = "Nigeria"  
ORDER BY "Country Name" = "Nigeria" + 0 DESC
```

### Result

The minimum debt owed by Nigeria in each year was returned in 214 rows, with the columns Country Name, Country Code and minimum debt per year.

**Fig 6: Table showing minimum debt owed by Nigeria in each year**

Grid view		Form view					Total rows loaded: 214	
	Country Name	Country Code	2007	2008	2009	min_nig_debt		
1	Nigeria	NGA	10.0223	9.8437	9.9902	10.0223		
2	Nigeria	NGA	10.0223	9.8437	9.9902	10.0223		
3	Nigeria	NGA	0	0	0	0		
4	Nigeria	NGA	80.317	79.7833	80.6636	79.7833		
5	Nigeria	NGA	80.317	79.7833	80.6636	79.7833		

## QUESTION 7

### a) “Computing the year with the largest interest arrears in Nigeria from private creditors and the value”

In the Indicator Name column there is a value for private creditors, this query is aimed at extracting the year with the largest interest arrears in Nigeria from private creditors and the value.

#### Query

```
SELECT *,
MAX (
MAX(COALESCE("1970", 0)),
MAX(COALESCE("1971", 0)),
MAX(COALESCE("1972", 0)),
MAX(COALESCE("1973", 0)),
MAX(COALESCE("1974", 0)),
MAX(COALESCE("1975", 0)),
MAX(COALESCE("1976", 0)),
MAX(COALESCE("1977", 0)),
MAX(COALESCE("1978", 0)),
MAX(COALESCE("1979", 0)),
MAX(COALESCE("1980", 0)),
MAX(COALESCE("1981", 0)),
MAX(COALESCE("1982", 0)),
MAX(COALESCE("1983", 0)),
MAX(COALESCE("1984", 0)),
```

MAX(COALESCE("1985", 0)),  
MAX(COALESCE("1986", 0)),  
MAX(COALESCE("1987", 0)),  
MAX(COALESCE("1988", 0)),  
MAX(COALESCE("1989", 0)),  
MAX(COALESCE("1990", 0)),  
MAX(COALESCE("1991", 0)),  
MAX(COALESCE("1992", 0)),  
MAX(COALESCE("1993", 0)),  
MAX(COALESCE("1994", 0)),  
MAX(COALESCE("1995", 0)),  
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MAX(COALESCE("1997", 0)),  
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MAX(COALESCE("1999", 0)),  
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MAX(COALESCE("2002", 0)),  
MAX(COALESCE("2003", 0)),  
MAX(COALESCE("2004", 0)),  
MAX(COALESCE("2005", 0)),  
MAX(COALESCE("2006", 0)),  
MAX(COALESCE("2007", 0)),  
MAX(COALESCE("2008", 0)),  
MAX(COALESCE("2009", 0)),  
MAX(COALESCE("2010", 0)),  
MAX(COALESCE("2011", 0)),

```

MAX(COALESCE("2012", 0)),
MAX(COALESCE("2013", 0)),
MAX(COALESCE("2014", 0)),
MAX(COALESCE("2015", 0)),
MAX(COALESCE("2016", 0)),
MAX(COALESCE("2017", 0)),
MAX(COALESCE("2018", 0)),
MAX(COALESCE("2019", 0)),
MAX(COALESCE("2020", 0)),
MAX(COALESCE("2021", 0)),
MAX(COALESCE("2022", 0)),
MAX(COALESCE("2023", 0)),
MAX(COALESCE("2024", 0))
)AS max_nig_debt
FROM project_table
WHERE "Country Name" = "Nigeria" AND "Indicator Name" LIKE
"Interest arrears, private creditors%"
ORDER BY "Indicator Name"

```

## Result

The largest interest arrears and value in Nigeria from private creditors in each year was returned in 1 row.

**Fig 7: Table showing the largest interest arrears and value in Nigeria from private creditors in each year**

Grid view

Form view

<

## b) “Computing the year with the largest multilateral debt in Nigeria from and the value in percentage”

In the Indicator Name column there is a value for multilateral debt, this query is aimed at extracting the year with the largest multilateral debt in Nigeria and the value in percentage.

### Query

```
SELECT *,
MAX (
MAX(COALESCE("1970", 0)),
MAX(COALESCE("1971", 0)),
MAX(COALESCE("1972", 0)),
MAX(COALESCE("1973", 0)),
MAX(COALESCE("1974", 0)),
MAX(COALESCE("1975", 0)),
MAX(COALESCE("1976", 0)),
MAX(COALESCE("1977", 0)),
MAX(COALESCE("1978", 0)),
MAX(COALESCE("1979", 0)),
MAX(COALESCE("1980", 0)),
MAX(COALESCE("1981", 0)),
MAX(COALESCE("1982", 0)),
MAX(COALESCE("1983", 0)),
```

MAX(COALESCE("1984", 0)),  
MAX(COALESCE("1985", 0)),  
MAX(COALESCE("1986", 0)),  
MAX(COALESCE("1987", 0)),  
MAX(COALESCE("1988", 0)),  
MAX(COALESCE("1989", 0)),  
MAX(COALESCE("1990", 0)),  
MAX(COALESCE("1991", 0)),  
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MAX(COALESCE("1994", 0)),  
MAX(COALESCE("1995", 0)),  
MAX(COALESCE("1996", 0)),  
MAX(COALESCE("1997", 0)),  
MAX(COALESCE("1998", 0)),  
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MAX(COALESCE("2000", 0)),  
MAX(COALESCE("2001", 0)),  
MAX(COALESCE("2002", 0)),  
MAX(COALESCE("2003", 0)),  
MAX(COALESCE("2004", 0)),  
MAX(COALESCE("2005", 0)),  
MAX(COALESCE("2006", 0)),  
MAX(COALESCE("2007", 0)),  
MAX(COALESCE("2008", 0)),  
MAX(COALESCE("2009", 0)),  
MAX(COALESCE("2010", 0)),

```

MAX(COALESCE("2011", 0)),
MAX(COALESCE("2012", 0)),
MAX(COALESCE("2013", 0)),
MAX(COALESCE("2014", 0)),
MAX(COALESCE("2015", 0)),
MAX(COALESCE("2016", 0)),
MAX(COALESCE("2017", 0)),
MAX(COALESCE("2018", 0)),
MAX(COALESCE("2019", 0)),
MAX(COALESCE("2020", 0)),
MAX(COALESCE("2021", 0)),
MAX(COALESCE("2022", 0)),
MAX(COALESCE("2023", 0)),
MAX(COALESCE("2024", 0))
)AS max_nig_debt
FROM project_table
WHERE "Country Name" = "Nigeria" AND "Indicator Name" LIKE
"Interest arrears, private creditors%"
ORDER BY "Indicator Name"

```

## Result

The largest multilateral debt and value in percentage in Nigeria in each year was returned in 1 row.







## **QUESTION 8 - “Computing the maximum debt owed by each country in given years in descending order”**

The query was aimed at returning a table with the maximum debt owed by each country in descending order in the following years: 1998, 1999, 2001, 2010, 2012, 2015.

### **Query**

```
SELECT "Country Name", "Country Code", "Indicator  
Name","1998","1999","2001","2010", "2012","2015",  
MAX (  
MAX(COALESCE("1998", 0)),  
MAX(COALESCE("1999", 0)),  
MAX(COALESCE("2001", 0)),  
MAX(COALESCE("2010", 0)),  
MAX(COALESCE("2011", 0)),  
MAX(COALESCE("2012", 0)),  
MAX(COALESCE("2015", 0))  
)AS max_debt  
FROM project_table  
GROUP BY "Country Name"  
ORDER BY "max_debt" DESC
```

### **Result**

The maximum debt owed by each country in each year was returned in 136 rows with the columns Country Name, Country Code, Indicator Name and maximum debt per year with Sri Lanka being number 1 on the table and Somalia being number 136.

**Fig 9: Table showing maximum debt owed by each country in given years in descending order**

<div> <div> <div></div> <div>✓</div> <div>✕</div> </div> <div> <div>⏪</div> <div>⏩</div> <div>1</div> <div>⏴</div> <div>⏵</div> </div> <div> <div></div> <div></div> </div> </div> <div>Total rows loaded: 136</div>					
	Country Name	Country Cc	Indicator Name	1998	1999
1	Sri Lanka	LKA	PPG, other private creditors (DIS, current US\$)	63221000	92664000
2	South Asia	SAS	PPG, bonds (INT, current US\$)	128551000	285366000
3	Ecuador	ECU	GNI (current US\$)	26810811405.7029	183379189
4	Bolivia	BOL	Net financial flows. IBRD (NFL, current US\$)	-12772000	-13451000

## **QUESTION 9 - “Computing which country has the largest debt in given years”**

The query was aimed at returning a table with the country with the largest debt in the following years: 2003, 2004, 2005, 2008, 2009, 2012.









### **Query**

```
SELECT "Country Name", "Country Code", "Indicator  
Name","2003","2004","2005","2008","2009","2012",  
MAX (  
MAX(COALESCE("2003", 0)),  
MAX(COALESCE("2004", 0)),  
MAX(COALESCE("2005", 0)),  
MAX(COALESCE("2008", 0)),  
MAX(COALESCE("2009", 0)),  
MAX(COALESCE("2012", 0))  
)AS max_debt  
FROM project_table  
GROUP BY "Country Name"  
ORDER BY "max_debt" DESC
```

### **Result**

The largest debt owed by each country in each year was returned in 136 rows with the columns Country Name, Country Code, Indicator Name and largest debt per year with South Asia being number 1 on the table and Somalia being number 136.

**Fig 10: Table showing the largest debt owed by each country in given years**

<div>      <div>1</div>    </div> <div>Total rows loaded: 136</div>					
	Country Name	Country Co	Indicator Name	2003	2004
1	South Asia	SAS	IMF purchases (DIS, current US\$)	643798000	412607000
2	Gambia, The	GMB	PPG, commercial banks (DOD, current US\$)	834000	591000
3	Uzbekistan	UZB	Interest payments on external debt, private ...	8852000	23431000
4	Dominican Republic	DOM	Disbursements on external debt, private ...	0	0



## **QUESTION 10 - “Computing which country has the highest minimum debt and the value of this debt in given years”**

The query was aimed at returning a table with the country with the highest minimum debt in the following years: 2003, 2004, 2005, 2008, 2009, 2012.

### **Query**

```
SELECT "Country Name", "Country Code", "2003", "2004", "2005",  
"2008", "2009", "2012",  
MIN("2003", "2004", "2005", "2008", "2009", "2012") AS min_debt  
FROM project_table  
GROUP BY "Country Name"  
ORDER BY "min_debt" + 0 DESC
```

### **Result**

The highest minimum debt owed by each country in each year was returned in 136 rows with the columns Country Name, Country Code, Indicator Name and highest minimum debt with Guatemala being number 1 on the table and Afghanistan being number 136.



**Fig 11: Table showing highest minimum debt owed by each country in given years**

Total rows loaded: 136							
	Country Name	Country Co	2003	2004	2005	2008	2009 ^
1	Guatemala	GTM	7.663	24.55	5.066	4.0209	6.33
2	Panama	PAN	22.8834	24.8508	21.7494	6.1772	8.38
3	Malaysia	MYS	21.96	19.8704	25.4751	19.5626	18.9
4	Dominica	DMA	6.2639	15.213	7.5506	6.6036	8.38
5	El Salvador	SLV	13.3959	27.015	16.1602	3.2657	4.82
6	Niger	NER	9.7739	7.993	8.8269	13.1306	9.63
7	Honduras	HND	6.7116	9.5299	9.3315	5.4196	7.97
8	Venezuela, RB	VEN	8.23	12.4541	12.6735	16.5209	9.85
9	Indonesia	IDN	3.5701	6.3581	13.8933	11.904	8.75
10	Kazakhstan	KAZ	6.6697	5.0833	5.3055	5.2886	4.67
11	Albania	ALB	11.8069	7.9714	6.701	7.4008	4.38
12	Congo, Dem. Rep.	COD	9.5942	9.9851	6.6664	2.0833	11.6
13	Tajikistan	TK	6.8016	6.8144	7.7781	11.604	5.54
14	Philippines	PHI	6.8363	7.9887	9.4137	8.3056	11.5 v
<							>

## **QUESTION 11 - “Computing the average debt by each country in given years”**

The query was aimed at retrieving a table with the average debt owed by each country in descending order in the following years: 2003, 2004, 2005, 2008, 2009, 2012 limiting the results gotten to the first 20 rows.

### **Query**

```
SELECT "Country Name", "Country Code", "Indicator Name", "Indicator Code", (SUM("2003") + SUM("2004") + SUM("2005") + SUM("2008") + SUM("2009") + SUM("2012")) / (COUNT("2003") + COUNT("2004") + COUNT("2005") + COUNT("2008") + COUNT("2009") + COUNT("2012")) AS avg_debt
FROM project_table
GROUP BY "Country Name", "Country Code"
ORDER BY avg_debt DESC LIMIT 20
```

### **Result**

The average debt owed by each country in each year was returned in 136 rows but limited to 20 rows with the columns Country Name, Country Code, Indicator Name, Indicator Code and average debt with Low & middle income being number 1 on the table and Argentina being number 20.

**Fig 12: Table showing the average debt owed by each country in given years**

<div> <input type="text" value="1"/> </div> <div>Total rows loaded: 20</div>					
	Country Name	Country Code	Indicator Name	Indicator Code	avg_debt
1	Low & middle income	LMY	Average grace period on new external debt ...	DT.GPA.DPPG	25327549
2	Middle income	MIC	Average grace period on new external debt ...	DT.GPA.DPPG	247708
3	Upper middle income	UMC	Average grace period on new external debt ...	DT.GPA.DPPG	18261591
4	East Asia & Pacific (excluding high income)	EAP	Average grace period on new external debt ...	DT.GPA.DPPG	8121219
5	Lower middle income	LMC	Average grace period on new external debt ...	DT.GPA.DPPG	65093818
6	Latin America & Caribbean (excluding high income)	LAC	Average grace period on new external debt ...	DT.GPA.DPPG	6022038
7	Europe & Central Asia (excluding high income)	ECA	Average grace period on new external debt ...	DT.GPA.DPPG	5663817
8	China	CHN	Average grace period on new external debt ...	DT.GPA.DPPG	5002668
9	Russian Federation	RUS	Average grace period on new external debt ...	DT.GPA.DPPG	23232944
10	South Asia	SAS	Average grace period on new external debt ...	DT.GPA.DPPG	2315561
11	Brazil	BRA	Average grace period on new external debt ...	DT.GPA.DPPG	19528573
12	Sub-Saharan Africa (excluding high income)	SSA	Average grace period on new external debt ...	DT.GPA.DPPG	18090532
13	India	IND	Average grace period on new external debt ...	DT.GPA.DPPG	16864978
14	Mexico	MEX	Average grace period on new external debt ...	DT.GPA.DPPG	16625245

## **QUESTION 12 - “Computing the country with the largest average debt in given years”**

The query was aimed at retrieving a table with the country with the largest average debt in the following years: 1998, 1999, 2001, 2010, 2012, 2015 limiting the results gotten to the first row to get the country with the largest average debt.

### **Query**

```
SELECT "Country Name", "Country Code", "Indicator Name", "Indicator Code", (SUM("1998") + SUM("1999") + SUM("2001") + SUM("2010") + SUM("2012") + SUM("2015")) / (COUNT("1998") + COUNT("1999") + COUNT("2001") + COUNT("2010") + COUNT("2012") + COUNT("2015")) AS avg_debt
FROM project_table
GROUP BY "Country Name", "Country Code"
ORDER BY avg_debt DESC LIMIT 1
```

### **Result**

The largest average debt owed by each country in each year was returned in 136 rows but limited to 1 row with the columns Country Name, Country Code, Indicator Name, Indicator Code and largest average debt with Low & middle income being number 1 on the table with an average debt of 265917782627.22662.

**Fig 13: Table showing the country with the highest average debt owed in given years**

Grid view <b>Form view</b>					
<div> <span>1</span> </div> Total rows loaded: 1					
	Country Name	Country Code	Indicator Name	Indicator Code	avg_debt
1	Low & middle income	LMY	Average grace period on new external debt ...	DT.GPA.DPPG	265917782627.22662

# Discussion

The debt for most countries were the higher in the 2000's than in the 1900's.

Sri Lanka appears to be the country with the highest maximum debt while Somalia has the least maximum debt in the following years: 1998, 1999, 2001, 2010, 2012, 2015.

South Asia has the largest debt while Somalia has the least maximum debt in the following years: 2003, 2004, 2005, 2008, 2009, 2012.

Guatemala has the highest minimum debt while Afghanistan has the least minimum debt in the following years: 2003, 2004, 2005, 2008, 2009, 2012.

The country with the highest average debt is the Low & middle income.



# Appendix

Kaggle International Debt Statistics

<https://www.kaggle.com/theworldbank/international-debt-statistics?select=IDSData.csv>