World Bank's International Debt Analysis

1. The World Bank's international debt data

The first line of code connects us to the international_debt database where the table international_debt is residing. Let's first SELECT all of the columns from the international_debt table.

```
SELECT * FROM international_debt

LIMIT  10;
```

country_name	country_code	indicator_name	indicator_code	debt
Afghanistan	AFG	Disbursements on external debt, long-term (DIS...	DT.DIS.DLXF.CD	72894454
Afghanistan	AFG	Interest payments on external debt, long-term ...	DT.INT.DLXF.CD	53239440
Afghanistan	AFG	PPG, bilateral (AMT, current US$)	DT.AMT.BLAT.CD	61739337
Afghanistan	AFG	PPG, bilateral (DIS, current US$)	DT.DIS.BLAT.CD	49114729
Afghanistan	AFG	PPG, bilateral (INT, current US$)	DT.INT.BLAT.CD	39903620
Afghanistan	AFG	PPG, multilateral (AMT, current US$)	DT.AMT.MLAT.CD	39107845
Afghanistan	AFG	PPG, multilateral (DIS, current US$)	DT.DIS.MLAT.CD	23779724
Afghanistan	AFG	PPG, multilateral (INT, current US$)	DT.INT.MLAT.CD	13335820
Afghanistan	AFG	PPG, official creditors (AMT, current US$)	DT.AMT.OFFT.CD	100847182
Afghanistan	AFG	PPG, official creditors (DIS, current US$)	DT.DIS.OFFT.CD	72894454

2. Finding the total number of countries

Will fine the total number of countries present in the data.

```
SELECT COUNT(country_name) as countryname

FROM international_debt;
```

countryname
6867

3. Finding the name of distinct countries

From the first ten rows, we can see the amount of debt owed by **Afghanistan** in the different debt indicators. But we do not know the number of different countries we have on the table. There are repetitions in the country names because a country is most likely to have debt in more than one debt indicator.

Let's find the name of distinct country to understand data more clearly. Also, we'll limit the output to the first ten rows to keep the output clean.

```
SELECT DISTINCT country_name

FROM international_debt

limit 10;
```

	country_name
▶	Afghanistan
	Albania
	Algeria
	Angola
	Armenia
	Azerbaijan
	Bangladesh
	Belarus
	Belize
	Benin

4. Finding the number of distinct countries

Without a count of unique countries, we will not be able to perform our statistical analyses holistically. In this section, we are going to extract the number of unique countries present in the table.

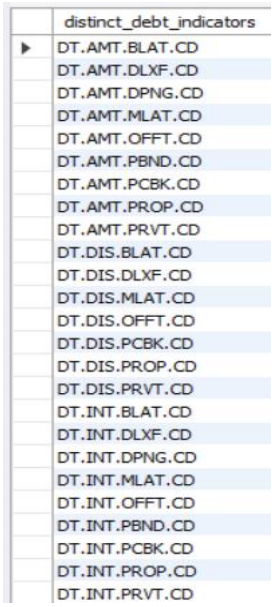
```
SELECT
COUNT(DISTINCT(country_name)) AS distinct_countries
FROM international_debt;
```

	distinct_countries
▶	124

5. Finding out the distinct debt indicators

We can see there are a total of 124 countries present on the table. As we saw in the first section, there is a column called indicator_name that briefly specifies the purpose of taking the debt. Just beside that column, there is another column called indicator_code which symbolizes the category of these debts. Knowing about these various debt indicators will help us to understand the areas in which a country can possibly be indebted to.

```
SELECT DISTINCT(indicator_code) AS distinct_debt_indicators
FROM international_debt
ORDER BY distinct_debt_indicators;
```



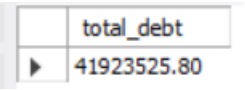
distinct_debt_indicators
DT.AMT.BLAT.CD
DT.AMT.DLXF.CD
DT.AMT.DPNG.CD
DT.AMT.MLAT.CD
DT.AMT.OFFT.CD
DT.AMT.PBND.CD
DT.AMT.PCBK.CD
DT.AMT.PROP.CD
DT.AMT.PRVT.CD
DT.DIS.BLAT.CD
DT.DIS.DLXF.CD
DT.DIS.MLAT.CD
DT.DIS.OFFT.CD
DT.DIS.PCBK.CD
DT.DIS.PROP.CD
DT.DIS.PRVT.CD
DT.INT.BLAT.CD
DT.INT.DLXF.CD
DT.INT.DPNG.CD
DT.INT.MLAT.CD
DT.INT.OFFT.CD
DT.INT.PBND.CD
DT.INT.PCBK.CD
DT.INT.PROP.CD
DT.INT.PRVT.CD

6. Totalling the amount of debt owed by the countries

As mentioned earlier, the financial debt of a particular country represents its economic state. But if we were to project this on an overall global scale, how will we approach it?

Let's switch gears from the debt indicators now and find out the total amount of debt (in USD) that is owed by the different countries. This will give us a sense of how the overall economy of the entire world is holding up.

```
SELECT
ROUND(SUM(debt)/100000, 2) AS total_debt
FROM international_debt;
```



total_debt
41923525.80

7. Country with the highest debt

Now that we have the exact total of the amounts of debt owed by several countries, let's now find out the country that owns the highest amount of debt along with the amount. Note that this debt is the sum of different debts owed by a country across several categories. This will help to understand more about the country in terms of its socio-economic scenarios. We can also find out the category in which the country owns its highest debt. But we will leave that for now.

```
SELECT country_name,
 SUM(debt) AS total_debt
FROM international_debt
GROUP BY country_name
ORDER BY total_debt DESC
```

LIMIT 1;

	country_name	total_debt
▶	Egypt, Arab Rep.	186233183277
	China	164407776210
	Indonesia	161056834308

8. Finding debt of India

India's international debt has grown steadily over the past decades, reflecting the country's expanding integration into the global economy. Let's now find out the India's amount of debt.

```
SELECT country_name,
 SUM(debt) AS total_debt
FROM international_debt
where country_name = 'INDIA';
```

	country_name	total_debt
▶	India	144148327695

9. Average amount of debt across indicators

So, it was **Egypt, Arab Rep.**

We now have a brief overview of the dataset and a few of its summary statistics. We already have an idea of the different debt indicators in which the countries owe their debts. We can dig even further to find out on an average how much debt a country owes? This will give us a better sense of the distribution of the amount of debt across different indicators.

```
SELECT
   indicator_code AS debt_indicator,
   indicator_name,
   AVG(debt) AS average_debt
FROM international_debt
GROUP BY debt_indicator, indicator_name
ORDER BY average_debt DESC
LIMIT 10;
```

	debt_indicator	indicator_name	average_debt
▶	DT.AMT.DPNG.CD	Principal repayments on external debt, private ...	1583054670.1714
	DT.AMT.DLXF.CD	Principal repayments on external debt, long-ter...	1562846584.9541
	DT.DIS.OFFT.CD	PPG, official creditors (DIS, current US$)	945378425.3932
	DT.INT.DPNG.CD	Interest payments on external debt, private no...	926201324.1429
	DT.DIS.DLXF.CD	Disbursements on external debt, long-term (DIS...	904259551.9052
	DT.AMT.PBND.CD	PPG, bonds (AMT, current US$)	846933824.6471
	DT.AMT.OFFT.CD	PPG, official creditors (AMT, current US$)	792326556.6083
	DT.INT.DLXF.CD	Interest payments on external debt, long-term ...	742726620.7328
	DT.AMT.PRVT.CD	PPG, private creditors (AMT, current US$)	711606653.7634
	DT.INT.PBND.CD	PPG, bonds (INT, current US$)	635527769.5882

10. The highest amount of principal repayments

We can see that the indicator DT.AMT.DLXF.CD tops the chart of average debt. This category includes repayment of long-term debts. Countries take on long-term debt to acquire immediate capital.

An interesting observation in the above finding is that there is a huge difference in the amounts of the indicators after the second one. This indicates that the first two indicators might be the most severe categories in which the countries owe their debts.

We can investigate this a bit more so as to find out which country owes the highest amount of debt in the category of long-term debts (DT.AMT.DLXF.CD). Since not all the countries suffer from the same kind of economic disturbances, this finding will allow us to understand that particular country's economic condition a bit more specifically.

```
SELECT
   country_name,
   indicator_name
FROM international_debt
WHERE debt = (SELECT
            MAX(debt)
            FROM international_debt
            ORDER BY MAX(debt) DESC);
```

	country_name	indicator_name
▶	Cameroon	PPG, bilateral (AMT, current US$)
	Cameroon	PPG, bilateral (AMT, current US$)
	Cameroon	PPG, bilateral (AMT, current US$)

11. The most common debt indicator

China has the highest amount of debt in the long-term debt (DT.AMT.DLXF.CD) category. It is often a good idea to verify our analyses like this since it validates that our investigations are correct.

We saw that long-term debt is the topmost category when it comes to the average amount of debt. But is it the most common indicator in which the countries owe their debt? Let's find that out.

```
SELECT
    indicator_code,
    COUNT(indicator_code) AS indicator_count
FROM international_debt
GROUP BY indicator_code
ORDER BY indicator_count DESC, indicator_code DESC
LIMIT 20;
```

indicator_code	indicator_count
DT.INT.OFFT.CD	372
DT.INT.MLAT.CD	372
DT.AMT.MLAT.CD	372
DT.INT.BLAT.CD	366
DT.AMT.BLAT.CD	363
DT.AMT.OFFT.CD	360
DT.DIS.OFFT.CD	351
DT.DIS.MLAT.CD	351
DT.INT.DLXF.CD	348
DT.DIS.DLXF.CD	348
DT.DIS.BLAT.CD	327
DT.AMT.DLXF.CD	327
DT.INT.PRVT.CD	291
DT.AMT.PRVT.CD	279
DT.INT.PCBK.CD	252
DT.AMT.PCBK.CD	249
DT.INT.DPNG.CD	231
DT.AMT.DPNG.CD	210
DT.INT.PBND.CD	204
DT.AMT.PBND.CD	204

12. Other viable debt issues and conclusion

There are a total of six debt indicators in which all the countries listed in our dataset have taken debt. The indicator DT.AMT.DLXF.CD is also there in the list. So, this gives us a clue that all these countries are suffering from a common economic issue. But that is not the end of the story, but just a part of the story.

Let's change tracks from debt_indicators now and focus on the amount of debt again. Let's find out the maximum amount of debt that each country has. With this, we will be in a position to identify the other plausible economic issues a country might be going through.

In this notebook, we took a look at debt owed by countries across the globe. We extracted a few summary statistics from the data and unraveled some interesting facts and figures. We also validated our findings to make sure the investigations are correct.

```
SELECT
    country_name,
```

```
    indicator_name,
    MAX(debt) AS maximum_debt
FROM international_debt
GROUP BY country_name, indicator_name
ORDER BY maximum_debt DESC
LIMIT 10;
```

country_name	indicator_name	maximum_debt
Cameroon	PPG, bilateral (AMT, current US$)	9999925153
Venezuela, RB	Principal repayments on external debt, long-ter...	9878659207
China	PPG, bonds (AMT, current US$)	9834677000
South Asia	Interest payments on external debt, private no...	9813113000
Egypt, Arab Rep.	Principal repayments on external debt, long-ter...	9692114177
Egypt, Arab Rep.	Disbursements on external debt, long-term (DIS...	9552207424
Lebanon	Principal repayments on external debt, long-ter...	9506919670
South Africa	Principal repayments on external debt, long-ter...	9474257552
Egypt, Arab Rep.	PPG, official creditors (AMT, current US$)	9374088399
Egypt, Arab Rep.	PPG, official creditors (DIS, current US$)	9355743702