# World Bank Analysis

## ❓ Why This Project ❓

To gain experience working with data from different industries, I decided to work with data from The World Bank, focusing on IDA loans and the countries to which The World Bank distributes them.
If you're curious what IDA means it is The International Development Association. This branch of The World Bank provides loans to developing countries and these loans typically have very little to no interest with long repayment periods.

The insights that this project will uncover are:
💡Which countries have the highest amount to repay?
💡How many IDA loans are there currently?
💡How many IDA loans are there per country?
💡What is the maximum amount owed to the IDA?

💡Which country has the most IDA loans?

# 🗂️ Data Source🗂️

The data used for this project was gathered from The World Bank's website: [finances.worldbank.org](finances.worldbank.org). Considering that this data changes constantly, The World Bank will release updates. Depending on when you are reading this project, the results may differ slightly from the data I used. The version that I used was last updated on Jan. 16th, 2024.
Some of the columns used within the dataset are as follows:

🏛️ Region
🏛️ Country
🏛️ Service Charge Rate
🏛️ Original Principal Amount
🏛️ Last Repayment Date
🏛️ Due to IDA (US$)

# 🛠️ Data Tool Used 🛠️

For this project, I used SQL due to its ability to wrangle data from datasets that are quite large. The dataset used to complete this analysis had 1,242,174 rows of data. Below are a few of the SQL functions I used to wrangle the data for analysis! 🧑‍🚀

⚙️COUNT- Determined the total number of loans.

⚙️AS- Created an alias for a column to maintain order and cleanliness with the data.

⚙GROUP BY- Determine the number of loans by each country.

⚙MIN & MAX- Found the amount owed by each country.

⚙SUM- Calculated the total amount owed to the IDA from all countries.

⚙AVG- To get an understanding of what the average service charge rate is.

⚙ORDER BY- Pull the descending service charge rates per loan.

⚙LIMIT- To ensure that not too many data entries were pulled and crash the program.

# ❓ Questions to Answer ❓

- Which project resulted in the highest balance loans for each country❓
- How many loans are there within the data set ❓
- How many loans does Nicaragua have within the data set ❓
- How many loans has the IDA distributed to each country ❓
- What is the average service charge rate among the loans within the data set ❓

# 🎯Insights🎯

## AS Function (Project Cost) 🎯

```sql
SELECT "Project Name", Country,
MAX("Due to IDA (US$)") AS "Amount Due"
FROM banking_data
WHERE "Due to IDA (US$)" IS NOT NULL
GROUP BY Country, "Project Name"
ORDER BY "Amount Due" DESC;

```

| | Project Name | Country | Amount Due |
|---|---|---|---|
| 1 | PEACE in Ukraine Proje... | Ukraine | 1043624506.91 |
| 2 | IN: SSA III | India | 793256127.64 |
| 3 | Inclusive Growth and F... | Kenya | 780555197.55 |
| 4 | IN: Elementary Educati... | India | 765355340 |
| 5 | Kenya Growth and Fisc... | Kenya | 750000000 |
| 6 | KE: ACCELERATING RE... | Kenya | 750000000 |
| 7 | NG: States Fiscal TAS P... | Nigeria | 715372514.35 |
| 8 | Power Sector Recovery... | Nigeria | 707968989.61 |
| 9 | SAC II | Pakistan | 640603392 |
| 10 | Ethiopia Growth and C... | Ethiopia | 621352567 |
| 11 | Ethiopia Enhancing Sh... | Ethiopia | 617193299.02 |
| 12 | IN: PMGSY Rural Road... | India | 610471961 |
| 13 | PK: Power Sector Refor... | Pakistan | 599496142 |
| 14 | ET Productive Safety N... | Ethiopia | 571045298.73 |
| 15 | ET-Promoting Basic Se... | Ethiopia | 569906098.57 |

The above query pulled the order of which country has the most expensive singular projects. As we can see Ukraine has the most expensive project the “PEACE in Ukraine Project”. The second most expensive project is the “IN: SSA III” and the third is the Inclusive “Growth and Fiscal DPO” in Kenya.

1) Ukraine (Peace in Ukraine Project) - $1,043,624,506.91💵
2) India (IN: SSA II) - $79,356,127.64💵
3) Kenya (Inclusive Growth and Fiscal DP) - $780,555,197.55💵

COUNT Function (Aggregate Number of Loans) 🎯

```
1  SELECT
2  COUNT(*) AS "Number of Loans"
3  FROM "Banking_Data";
```

| | Number of Loans |
|---|---|
| 1 | 1242174 |

The COUNT Function above shows how many total rows of data are within the data set. According to the query pulled, this data set has 1,242,174 rows. Some of these rows contain loans that have been paid or not approved yet, however, that is still quite a bit! 😮

🔢 Data Set (Rows): 1,242,174

COUNT Function W/ WHERE Function (Aggregate Number of Loans Per Nicaragua) 🎯

```
1  SELECT COUNT(Borrower) AS "Nicaragua Loans"
2  FROM banking_data
3  WHERE "Country"= 'Nicaragua';
4
```

| | Nicaragua Loans |
|---|---|
| 1 | 15110 |

Previously we used the COUNT function to count all the rows within the data set and this was done by using “COUNT (*).” To hone those results down to only specific countries, we will use the COUNT function and the WHERE function as shown above. For this project, we were tasked with figuring out the current amount of loans that the country Nicaragua had with the IDA.

Underneath the query, we see the result. 👍

Nicaragua: 15,110 Loans

GROUPBY Function (Number of Loans Due to the IDA Per Country) 🎯

```
SELECT Country,
COUNT(*) AS "Number of Loans"
FROM "banking_data"
GROUP BY "Country"
ORDER BY "Number of Loans" DESC;
```

| | Country | Number of Loans |
|---|---|---|
| 1 | India | 64065 |
| 2 | Bangladesh | 45584 |
| 3 | Pakistan | 39211 |
| 4 | Tanzania | 37716 |
| 5 | Ghana | 34169 |
| 6 | Ethiopia | 29723 |
| 7 | Senegal | 29076 |
| 8 | Yemen, Republic of | 28462 |
| 9 | Kenya | 27915 |
| 10 | Uganda | 27906 |
| 11 | Madagascar | 25998 |
| 12 | Malawi | 25575 |
| 13 | Nepal | 24596 |
| 14 | Burkina Faso | 24207 |
| 15 | Vietnam | 23690 |

The above query helps us to answer the question “How many loans are there per country due to the IDA?” In this query, I used the GROUPBY function to return the list of countries and the ORDERBY function to list those countries in descending order.

According to this query, it appears that India has the highest number of loans with the IDA at 64,064.

💰Loans From IDA:

India: 64,064

Bangladesh: 45,584

Pakistan: 39,211

AVG Function (Average Service Charge Rate)

```
1  SELECT
2  AVG("Service Charge Rate") AS "Average Service Charge Rate"
3  FROM "banking_data";
```

| | Average Service Charge Rate |
|---|---|
| 1 | 0.7919910104577669 |

The final question that we were tasked with answering was: What is the average service charge rate among the loans within the data set? To answer this question, I used the AVG function within SQL to calculate the answer.

Average Service Charge Rate: 0.79%

# ✅ Takeaways ✅

In conclusion, after running the above SQL queries, I found the insights I was attempting to uncover!

1. ✅ First, we learned that Ukraine's "Peace in Ukraine Project" is the single project with the highest balance of any other projects.
2. ✅ Second, we learned the total amount of loans that are in the dataset which is 1,242,174
3. ✅ Third, to get an in depth look at the situation in Nicaragua we found that they currently have 15,110 loans with the IDA within this dataset.
4. ✅ Fourth, I was able to query the list of countries and their total amount of loans with the IDA and found that India has the most at 64,064.
5. ✅ Fifth, I was tasked with finding the average service charge rate for the loans within the data set and after using the AVG function I calculated it at 0.79%.

# 📩 Contact Me 📩

After reading through this project, are there any additional questions you would like to have answered from this dataset? Are there any additional functions you want to see used to pull further insights? Or, if you have any questions at all I would love to have you reach out to me via LinkedIn @Vincen Dailey! Also, I am looking for a data analysis position so send me a direct message so I can discuss why I think I am a great candidate for your team!