U.S. Trading Partners Database SQL Commands and Notebook

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Understanding the Data:

- **In these tables:**
  - Table 1. U.S. International Trade by Countries - Exports of Goods and Services
  - Table 2. U.S. International Trade by Countries - Imports of Goods and Services
  - Table 3. U.S. International Trade by Countries - Balance on Goods and Services

  Columns include: **Period**, Australia, Belgium, Brazil, Canada, China, France, Germany, Hong Kong, India, Ireland, Israel, Italy, Japan, "Korea, South", Malaysia, Mexico, Netherlands, Saudi Arabia, Singapore, Switzerland, Taiwan, United Kingdom, Vietnam, All other countries, European Union, "South/Central America".
  The Period ranges from 1999 – 2023; The remaining columns are countries that represent the export, import, or balance amounts in millions of dollars, depending on the table.

- **In table 4 and 5:**
  - Table 4. U.S. International Trade in Services by Major Category – Exports
  - Table 5. U.S. International Trade in Services by Major Category – Imports

  Columns include: Period, Total, Maintenance and Repair Services n.i.e., Transport, Travel 1, Construction, Insurance Services, Financial Services, Charges for the Use of Intellectual Property n.i.e., "Telecommunications, Computer, and Information Services", Other Business Services, "Personal, Cultural, and Recreational Services", Government Goods and Services n.i.e.
  The Period ranges from 1999 – 2023; The remaining columns are service categories that represent various types of international trade in services, measured in monetary terms (typically millions of dollars).

- **Missing Values:**

```
SELECT * FROM ustrading.`exports by countries`
WHERE Ireland IS NULL OR Vietnam IS NULL;
SELECT * FROM ustrading.`imports by countries`
WHERE Ireland IS NULL OR Vietnam IS NULL;
SELECT * FROM ustrading.`balance by countries`
WHERE Ireland IS NULL OR Vietnam IS NULL;
```

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Etc.

Ireland and Vietnam are missing export, import, balance amounts from 1999 to 2005

Period	Australia	Belgium	Brazil	Canada	China	France	Germany	Hong Kong	India	Ireland
1999	17474	15237	19094	190178	17707	28659	43175	16217	6139	NULL
2000	18919	16909	22112	204237	21862	30821	45379	18521	6731	NULL
2001	16427	16173	22109	188243	25025	29942	44309	17689	7230	NULL
2002	18832	15719	18306	186202	28363	30053	41739	16257	7648	NULL
2003	19625	17831	16450	197491	34628	28582	45569	17278	9144	NULL
2004	21291	19712	19414	219500	42236	34234	50743	19771	10963	NULL
2005	23820	21748	21574	246291	50685	35241	55246	21046	13294	NULL

No missing values for both table 4 and 5: U.S. International Trade in Services by Major Categories - Exports and Imports

- **Anomalies**

We should start by looking at the International Trade Balance on Goods and Services Table. A positive value indicates a trade surplus, meaning the exports to a specific country exceed the imports from that country during the specified period. A positive balance means that the U.S. is earning more from trading with that country than it is spending. A negative value indicates a trade deficit, meaning the imports from a specific country exceed the exports to that country during the specified period. A negative balance means that the U.S. is spending more on imports from that country than it earns from exports.

When we look at the trade balance from 1999 to 2023, China and the European Union stand out as the biggest anomalies. Since 2005, the trade balance between China and the U.S. has consistently been less than negative 200 billion dollars, meaning the U.S. has imported over 200 billion dollars from China more than it exported to China. Ever since 2014, the trade balance has been less than negative 300 billion dollars. This can be explained the rapid growth of China's manufacturing sector, its role as a global export powerhouse, and the high demand for Chinese goods in the U.S. Goods include electronics, machinery, and consumer products. Furthermore, the U.S. has relied heavily on importing lower-cost goods from China to meet domestic consumption needs. On the other hand, the European Union has also shown a consistent trade imbalance with the

Period	Australia	Belgium	Brazil	Canada	China	European
2011	29206	12914	26695	-7775	-282574	-60111
2012	34585	12562	29223	-2077	-298580	-74838
2013	31605	12713	36013	-282	-298116	-78201
2014	31311	13452	32419	-8148	-318192	-91692
2015	29809	14759	23512	7116	-336368	-98834
2016	28259	15205	19764	10847	-310330	-81855
2017	29120	15301	28152	7334	-336268	-89332
2018	30021	15015	29214	6094	-377728	-97717
2019	28373	15694	29496	-1123	-302039	-103749
2020	17915	8076	21437	649	-282341	-110295
2021	24055	11488	25462	-36205	-334188	-146407
2022	26902	9114	30590	-57565	-366197	-129028
2023	31884	16256	23638	-40627	-252144	-125125

U.S., although on a smaller scale. For most years since 1999, the trade balance with the European Union has been less than negative 90 billion dollars. This reflects strong economic ties and significant trade in high-value goods, such as automotive products, pharmaceuticals, and industrial machinery, with the U.S. importing more from the EU than it exports. The imbalance highlights the interconnected but asymmetric trade relationship between these economic powerhouses. The U.S. imports more from the European Union than it exports due to high demand for European luxury goods, advanced industrial products, and pharmaceuticals; U.S. exports more raw materials and services, and European Union has less demand for U.S. exports, so while U.S. service exports are significant, they cannot fully offset the deficit in goods trade.

Positive Trade Balances (surpluses) are generally viewed as favorable because they contribute positively to a country's GDP and reduce dependency on foreign goods/services. Negative Trade Balances (deficits) can indicate over-reliance on imports, but they aren't always bad. For example, importing critical goods or raw materials for production can be seen as good for economy.

Overall Analysis:

1. **Calculate a country's trade volume between specific start and end dates:**

We will use Canada as an example here, but any country of interest can be selected for this calculation.

Method 1:

```
1   -- Total Trading Volume From 2000 to 2023 for Canada Method 1
2   SELECT
3       SUM(ex.Canada) AS total_canada_export_value,
4       SUM(im.Canada) AS total_canada_import_value,
5       SUM(b.Canada) AS total_canada_balance_value
6   FROM  `exports by countries` AS ex
7   JOIN  `imports by countries` AS im ON ex.Period = im.Period
8   JOIN  `balance by countries` AS b ON ex.Period = b.Period
9   WHERE ex.Period BETWEEN 2000 AND 2023;
```

Method 2:

```
1   -- Total Trading Volume From 2000 to 2023 for Canada
2   SELECT
3   (SELECT SUM(Canada)
4   FROM ustrading.`exports by countries`
5   WHERE Period BETWEEN 2000 AND 2023) AS Total_Canada_Exporting_Volume,
6   (SELECT SUM(Canada)
7   FROM ustrading.`imports by countries`
8   WHERE Period BETWEEN 2000 AND 2023) AS Total_Canada_Importing_Volume,
9   (SELECT SUM(Canada)
10  FROM ustrading.`balance by countries`
11  WHERE Period BETWEEN 2000 AND 2023) AS Total_Canada_Exporting_Volume;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

Total_Canada_Exporting_Volume	Total_Canada_Importing_Volume	Total_Canada_Exporting_Volume
7435747	8066594	-630848

2. Display Export, Import, Balance Volume of a country in one table:

```sql
-- Import, Export, Balance Trading Volume From 2000 to 2023 for Canada
SELECT
    ex.Period,
    ex.Canada AS export_value,
    im.Canada AS import_value,
    b.Canada AS balance_value
FROM  `exports by countries` AS ex
JOIN  `imports by countries` AS im ON ex.Period = im.Period
JOIN  `balance by countries` AS b ON ex.Period = b.Period
WHERE ex.Period BETWEEN 2000 AND 2023
ORDER BY ex.Period ASC;
```

Trade Volume Analysis

3. Which countries have the highest total trade exports over the entire dataset?

To display total exports volume for each country:

```sql
SELECT
    SUM(ex.Australia), SUM(ex.Belgium), SUM(ex.Brazil), SUM(ex.Canada),
    SUM(ex.China), SUM(ex.France), SUM(ex.Germany), SUM(ex.`Hong Kong`),
    SUM(ex.India), SUM(ex.Ireland), SUM(ex.Israel), SUM(ex.Italy),
    SUM(ex.Japan), SUM(ex.`Korea, South`), SUM(ex.Malaysia), SUM(ex.Mexico),
    SUM(ex.Netherlands), SUM(ex.`Saudi Arabia`), SUM(ex.Singapore), SUM(ex.Switzerland),
    SUM(ex.Taiwan), SUM(ex.`United Kingdom`), SUM(ex.Vietnam), SUM(ex.`All other countries`),
    SUM(ex.`European Union`), SUM(ex.`SouthCentral America`)
FROM `exports by countries` ex;
```

Total Exports volume for each country results:

	SUM(ex.Australia)	SUM(ex.Belgium)	SUM(ex.Brazil)	SUM(ex.Canada)	SUM(ex.China)	SUM(ex.France)	SUM(ex.Germany)	SUM(ex.`Hong Kong`)
▶	926096	763185	1182490	7625925	2865577	1135510	1860522	865545

To display the largest value among all columns, we use GREATEST statement:

```sql
SELECT GREATEST(
    SUM(ex.Australia), SUM(ex.Belgium), SUM(ex.Brazil), SUM(ex.Canada),
    SUM(ex.China), SUM(ex.France), SUM(ex.Germany), SUM(ex.`Hong Kong`),
    SUM(ex.India), SUM(ex.Ireland), SUM(ex.Israel), SUM(ex.Italy),
    SUM(ex.Japan), SUM(ex.`Korea, South`), SUM(ex.Malaysia), SUM(ex.Mexico),
    SUM(ex.Netherlands), SUM(ex.`Saudi Arabia`), SUM(ex.Singapore), SUM(ex.Switzerland),
    SUM(ex.Taiwan), SUM(ex.`United Kingdom`), SUM(ex.Vietnam), SUM(ex.`All other countries`),
    SUM(ex.`European Union`), SUM(ex.`SouthCentral America`)
) AS max_export
FROM `exports by countries` ex;
```

Largest value is shown below, which corresponds to European Union:

	max_export
▶	10796080

4. Which countries have the highest total trade imports over the entire dataset?

To display total imports volume for each country:

```
SELECT
    SUM(im.Australia), SUM(im.Belgium), SUM(im.Brazil), SUM(im.Canada),
    SUM(im.China), SUM(im.France), SUM(im.Germany), SUM(im.`Hong Kong`),
    SUM(im.India), SUM(im.Ireland), SUM(im.Israel), SUM(im.Italy),
    SUM(im.Japan), SUM(im.`Korea, South`), SUM(im.Malaysia), SUM(im.Mexico),
    SUM(im.Netherlands), SUM(im.`Saudi Arabia`), SUM(im.Singapore), SUM(im.Switzerland),
    SUM(im.Taiwan), SUM(im.`United Kingdom`), SUM(im.Vietnam), SUM(im.`All other countries`),
    SUM(im.`European Union`), SUM(im.`SouthCentral America`)
FROM `imports by countries` im;
```

Total imports volume for each country results:

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

	SUM(im.Australia)	SUM(im.Belgium)	SUM(im.Brazil)	SUM(im.Canada)	SUM(im.China)	SUM(im.France)	SUM(im.Germany)	SUM(im.`Hong Kong`)
▶	391442	513317	769404	8285794	9013804	1467449	3287726	380852

To display the largest value among all columns, we use GREATEST statement:

```
SELECT GREATEST(
    SUM(im.Australia), SUM(im.Belgium), SUM(im.Brazil), SUM(im.Canada),
    SUM(im.China), SUM(im.France), SUM(im.Germany), SUM(im.`Hong Kong`),
    SUM(im.India), SUM(im.Ireland), SUM(im.Israel), SUM(im.Italy),
    SUM(im.Japan), SUM(im.`Korea, South`), SUM(im.Malaysia), SUM(im.Mexico),
    SUM(im.Netherlands), SUM(im.`Saudi Arabia`), SUM(im.Singapore), SUM(im.Switzerland),
    SUM(im.Taiwan), SUM(im.`United Kingdom`), SUM(im.Vietnam), SUM(im.`All other countries`),
    SUM(im.`European Union`), SUM(im.`SouthCentral America`)
    ) AS max_import
FROM `imports by countries` im;
```

Largest value is shown below, which corresponds to European Union:

	max_import
▶	12896896

5. What are the top 5 countries by export volume?

We need to unpivot and use “UNION ALL” to stack the results from multiple SELECT statements, and then transform results from columns into rows.

```sql
SELECT country, total_exports FROM (
    SELECT 'Australia', SUM(ex.Australia) FROM `exports by countries` ex
    UNION ALL SELECT 'Belgium', SUM(ex.Belgium) FROM `exports by countries` ex
    UNION ALL SELECT 'Brazil', SUM(ex.Brazil) FROM `exports by countries` ex
    UNION ALL SELECT 'Canada', SUM(ex.Canada) FROM `exports by countries` ex
    UNION ALL SELECT 'China', SUM(ex.China) FROM `exports by countries` ex
    UNION ALL SELECT 'France', SUM(ex.France) FROM `exports by countries` ex
    UNION ALL SELECT 'Germany', SUM(ex.Germany) FROM `exports by countries` ex
    UNION ALL SELECT 'Hong Kong', SUM(ex.`Hong Kong`) FROM `exports by countries` ex
    UNION ALL SELECT 'India', SUM(ex.India) FROM `exports by countries` ex
    UNION ALL SELECT 'Ireland', SUM(ex.Ireland) FROM `exports by countries` ex
    UNION ALL SELECT 'Israel', SUM(ex.Israel) FROM `exports by countries` ex
    UNION ALL SELECT 'Italy', SUM(ex.Italy) FROM `exports by countries` ex
    UNION ALL SELECT 'Japan', SUM(ex.Japan) FROM `exports by countries` ex
    UNION ALL SELECT 'Korea, South', SUM(ex.`Korea, South`) FROM `exports by countries` ex
    UNION ALL SELECT 'Malaysia', SUM(ex.Malaysia) FROM `exports by countries` ex
    UNION ALL SELECT 'Mexico', SUM(ex.Mexico) FROM `exports by countries` ex
    UNION ALL SELECT 'Netherlands', SUM(ex.Netherlands) FROM `exports by countries` ex
    UNION ALL SELECT 'Saudi Arabia', SUM(ex.`Saudi Arabia`) FROM `exports by countries` ex
    UNION ALL SELECT 'Singapore', SUM(ex.Singapore) FROM `exports by countries` ex
    UNION ALL SELECT 'Switzerland', SUM(ex.Switzerland) FROM `exports by countries` ex
    UNION ALL SELECT 'Taiwan', SUM(ex.Taiwan) FROM `exports by countries` ex
    UNION ALL SELECT 'United Kingdom', SUM(ex.`United Kingdom`) FROM `exports by countries` ex
    UNION ALL SELECT 'Vietnam', SUM(ex.Vietnam) FROM `exports by countries` ex
    UNION ALL SELECT 'All other countries', SUM(ex.`All other countries`) FROM `exports by countries` ex
    UNION ALL SELECT 'European Union', SUM(ex.`European Union`) FROM `exports by countries` ex
    UNION ALL SELECT 'SouthCentral America', SUM(ex.`SouthCentral America`) FROM `exports by countries` ex
) temp(country, total_exports)
ORDER BY total_exports DESC;
```

Output:

country	total_exports
European Union	10796080
All other countries	10339769
Canada	7625925
SouthCentral America	5508354
Mexico	5344534
China	2865577
United Kingdom	2752386
Japan	2616133
Germany	1860522
Korea, South	1441960
Netherlands	1359053
Brazil	1182490
France	1135510
Switzerland	1130115
Singapore	1038140

Therefore, the top 5 countries by export volume (from 1999 to 2025) are: European Union, Canada, Southern/Central America, Mexico, and China.

6. **Which countries have the largest trade deficits (imports > exports) and surpluses (exports > imports)?**

SUM(ex.country) – SUM(im.country) to get trade deficits, and then we create a temporary table to rank all countries.

```
SELECT country, trade_balance FROM (
    SELECT 'Australia', SUM(ex.Australia) - SUM(im.Australia) FROM `exports by countries` ex, `imports by countries` im
    UNION ALL SELECT 'Belgium', SUM(ex.Belgium) - SUM(im.Belgium) FROM `exports by countries` ex, `imports by countries` im
    UNION ALL SELECT 'Brazil', SUM(ex.Brazil) - SUM(im.Brazil) FROM `exports by countries` ex, `imports by countries` im
    UNION ALL SELECT 'Canada', SUM(ex.Canada) - SUM(im.Canada) FROM `exports by countries` ex, `imports by countries` im
    UNION ALL SELECT 'China', SUM(ex.China) - SUM(im.China) FROM `exports by countries` ex, `imports by countries` im
    UNION ALL SELECT 'France', SUM(ex.France) - SUM(im.France) FROM `exports by countries` ex, `imports by countries` im
    UNION ALL SELECT 'Germany', SUM(ex.Germany) - SUM(im.Germany) FROM `exports by countries` ex, `imports by countries` im
    UNION ALL SELECT 'Hong Kong', SUM(ex.`Hong Kong`) - SUM(im.`Hong Kong`) FROM `exports by countries` ex, `imports by countries` im
    UNION ALL SELECT 'India', SUM(ex.India) - SUM(im.India) FROM `exports by countries` ex, `imports by countries` im
    UNION ALL SELECT 'Ireland', SUM(ex.Ireland) - SUM(im.Ireland) FROM `exports by countries` ex, `imports by countries` im
    UNION ALL SELECT 'Israel', SUM(ex.Israel) - SUM(im.Israel) FROM `exports by countries` ex, `imports by countries` im
    UNION ALL SELECT 'Italy', SUM(ex.Italy) - SUM(im.Italy) FROM `exports by countries` ex, `imports by countries` im
    UNION ALL SELECT 'Japan', SUM(ex.Japan) - SUM(im.Japan) FROM `exports by countries` ex, `imports by countries` im
    UNION ALL SELECT 'Korea, South', SUM(ex.`Korea, South`) - SUM(im.`Korea, South`) FROM `exports by countries` ex, `imports by countries` im
    UNION ALL SELECT 'Korea, South', SUM(ex.`Korea, South`) - SUM(im.`Korea, South`) FROM `exports by countries` ex, `imports by countries` im
    UNION ALL SELECT 'Malaysia', SUM(ex.Malaysia) - SUM(im.Malaysia) FROM `exports by countries` ex, `imports by countries` im
    UNION ALL SELECT 'Mexico', SUM(ex.Mexico) - SUM(im.Mexico) FROM `exports by countries` ex, `imports by countries` im
    UNION ALL SELECT 'Netherlands', SUM(ex.Netherlands) - SUM(im.Netherlands) FROM `exports by countries` ex, `imports by countries` im
    UNION ALL SELECT 'Saudi Arabia', SUM(ex.`Saudi Arabia`) - SUM(im.`Saudi Arabia`) FROM `exports by countries` ex, `imports by countries` im
    UNION ALL SELECT 'Singapore', SUM(ex.Singapore) - SUM(im.Singapore) FROM `exports by countries` ex, `imports by countries` im
    UNION ALL SELECT 'Switzerland', SUM(ex.Switzerland) - SUM(im.Switzerland) FROM `exports by countries` ex, `imports by countries` im
    UNION ALL SELECT 'Taiwan', SUM(ex.Taiwan) - SUM(im.Taiwan) FROM `exports by countries` ex, `imports by countries` im
    UNION ALL SELECT 'United Kingdom', SUM(ex.`United Kingdom`) - SUM(im.`United Kingdom`) FROM `exports by countries` ex, `imports by countries` im
    UNION ALL SELECT 'Vietnam', SUM(ex.Vietnam) - SUM(im.Vietnam) FROM `exports by countries` ex, `imports by countries` im
    UNION ALL SELECT 'All other countries', SUM(ex.`All other countries`) - SUM(im.`All other countries`) FROM `exports by countries` ex, `imports by countries`
    UNION ALL SELECT 'European Union', SUM(ex.`European Union`) - SUM(im.`European Union`) FROM `exports by countries` ex, `imports by countries` im
    UNION ALL SELECT 'SouthCentral America', SUM(ex.`SouthCentral America`) - SUM(im.`SouthCentral America`) FROM `exports by countries` ex, `imports by countrie
) temp(country, trade_balance)
ORDER BY trade_balance ASC; -- Sorts by the biggest trade deficit first
```

Output:

country	trade_balance
China	-153705675
European Union	-52520400
All other countries	-43766775
Mexico	-41061350
Japan	-36283150
Germany	-35680100

Brazil	10327150
Hong Kong	12117325
Australia	13366350
Netherlands	15382200
SouthCentral Am…	17880100

China, the European Union, Mexico, Japan, and Germany have the largest trade deficits. Negative numbers indicate a higher value of exports compared to imports. On the other hand, countries/regions like Brazil, Hong Kong, Australia, Netherland, South Central America have the largest surpluses. Those positive numbers demonstrate that these economies heavily rely on imports.

7. **How have total exports and imports changed over the years for Canada?**

```
SELECT ex.Period,
       SUM(ex.Canada) AS total_exports,
       SUM(im.Canada) AS total_imports
FROM `exports by countries` ex
JOIN `imports by countries` im ON ex.Period = im.Period
GROUP BY ex.Period
ORDER BY ex.Period ASC;
```

Output:

Period	total_exports	total_imports
1999	190178	219200
2000	204237	253312
2001	188243	237902
2002	186202	231621
2003	197491	246494
2004	219500	283382
2005	246291	319543
2006	270762	332041
2007	294473	348038
2008	310671	370870
2009	251969	252950

Period	total_exports	total_imports
2010	307571	310341
2011	344575	352351
2012	359930	362007
2013	369661	369943
2014	379851	387999
2015	341365	334249
2016	327931	317084
2017	348666	341331
2018	368991	362898
2019	362297	363420
2020	309637	308988
2021	367774	403979
2022	436720	494285
2023	440939	481566

Both exports and imports have steadily increased over the years, indicating overall trade growth. In 1999, total exports for Canada were $190B, meanwhile imports were $219B. By 2023, exports reached $440B, while imports hit $481B. This significant change shows that Canada's trade volume has more than doubled in the last 25 years.

Canada has maintained a trade deficit (meaning imports > exports) for majority of the 25 years. The gap was small in the early years. For instance, in 1999, the deficit was around 29 billion dollars. The deficit widened after 2010. For example, in 2023, the gap was around 40 billion dollars. Overall, Canada's trade has grown steadily, but the consistent trade deficit suggests that the Canadian economy needs stronger export policies.

Regional Insights

6. **What percentage of total trade is accounted for by specific regions or groups of countries?**

We will use European Union as an example here:

Total EU Trade=SUM(Exports) + SUM(Imports)

```sql
SELECT
    SUM(ex.`European Union`) + SUM(im.`European Union`) AS total_trade,
    (SUM(ex.`European Union`) + SUM(im.`European Union`)) * 100.0 /
    (SUM(ex.Australia) + SUM(ex.Belgium) + SUM(ex.Brazil) + SUM(ex.Canada) +
     SUM(ex.China) + SUM(ex.France) + SUM(ex.Germany) + SUM(ex.`Hong Kong`) +
     SUM(ex.India) + SUM(ex.Ireland) + SUM(ex.Israel) + SUM(ex.Italy) +
     SUM(ex.Japan) + SUM(ex.`Korea, South`) + SUM(ex.Malaysia) + SUM(ex.Mexico) +
     SUM(ex.Netherlands) + SUM(ex.`Saudi Arabia`) + SUM(ex.Singapore) + SUM(ex.Switzerland) +
     SUM(ex.Taiwan) + SUM(ex.`United Kingdom`) + SUM(ex.Vietnam) + SUM(ex.`All other countries`) +
     SUM(ex.`European Union`) + SUM(ex.`SouthCentral America`) +
     SUM(im.Australia) + SUM(im.Belgium) + SUM(im.Brazil) + SUM(im.Canada) +
     SUM(im.China) + SUM(im.France) + SUM(im.Germany) + SUM(im.`Hong Kong`) +
     SUM(im.India) + SUM(im.Ireland) + SUM(im.Israel) + SUM(im.Italy) +
     SUM(im.Japan) + SUM(im.`Korea, South`) + SUM(im.Malaysia) + SUM(im.Mexico) +
     SUM(im.Netherlands) + SUM(im.`Saudi Arabia`) + SUM(im.Singapore) + SUM(im.Switzerland) +
     SUM(im.Taiwan) + SUM(im.`United Kingdom`) + SUM(im.Vietnam) + SUM(im.`All other countries`) +
     SUM(im.`European Union`) + SUM(im.`SouthCentral America`)
    ) AS trade_percentage
FROM `exports by countries` ex
JOIN `imports by countries` im ON ex.Period = im.Period;
```

Output:

	total_trade	trade_percentage
▶	23692976	16.448753724994248

7. Which countries are the most balanced in their trade relationships?

```sql
SELECT country, ABS(total_exports - total_imports) AS trade_difference
FROM (
    SELECT 'Australia' AS country, SUM(ex.Australia) AS total_exports, SUM(im.Australia) AS total_imports
    FROM `exports by countries` ex
    JOIN `imports by countries` im ON ex.Period = im.Period
    UNION ALL SELECT 'Belgium', SUM(ex.Belgium), SUM(im.Belgium) FROM `exports by countries` ex JOIN `imports by countries` im ON ex.Period = im.Period
    UNION ALL SELECT 'Brazil', SUM(ex.Brazil), SUM(im.Brazil) FROM `exports by countries` ex JOIN `imports by countries` im ON ex.Period = im.Period
    UNION ALL SELECT 'Canada', SUM(ex.Canada), SUM(im.Canada) FROM `exports by countries` ex JOIN `imports by countries` im ON ex.Period = im.Period
    UNION ALL SELECT 'China', SUM(ex.China), SUM(im.China) FROM `exports by countries` ex JOIN `imports by countries` im ON ex.Period = im.Period
    UNION ALL SELECT 'France', SUM(ex.France), SUM(im.France) FROM `exports by countries` ex JOIN `imports by countries` im ON ex.Period = im.Period
    UNION ALL SELECT 'Germany', SUM(ex.Germany), SUM(im.Germany) FROM `exports by countries` ex JOIN `imports by countries` im ON ex.Period = im.Period
    UNION ALL SELECT 'Hong Kong', SUM(ex.`Hong Kong`), SUM(im.`Hong Kong`) FROM `exports by countries` ex JOIN `imports by countries` im ON ex.Period = im.Period
    UNION ALL SELECT 'India', SUM(ex.India), SUM(im.India) FROM `exports by countries` ex JOIN `imports by countries` im ON ex.Period = im.Period
    UNION ALL SELECT 'Ireland', SUM(ex.Ireland), SUM(im.Ireland) FROM `exports by countries` ex JOIN `imports by countries` im ON ex.Period = im.Period
    UNION ALL SELECT 'Israel', SUM(ex.Israel), SUM(im.Israel) FROM `exports by countries` ex JOIN `imports by countries` im ON ex.Period = im.Period
    UNION ALL SELECT 'Italy', SUM(ex.Italy), SUM(im.Italy) FROM `exports by countries` ex JOIN `imports by countries` im ON ex.Period = im.Period
    UNION ALL SELECT 'Japan', SUM(ex.Japan), SUM(im.Japan) FROM `exports by countries` ex JOIN `imports by countries` im ON ex.Period = im.Period
    UNION ALL SELECT 'Korea, South', SUM(ex.`Korea, South`), SUM(im.`Korea, South`) FROM `exports by countries` ex JOIN `imports by countries` im ON ex.Period = im.P
    UNION ALL SELECT 'Malaysia', SUM(ex.Malaysia), SUM(im.Malaysia) FROM `exports by countries` ex JOIN `imports by countries` im ON ex.Period = im.Period
    UNION ALL SELECT 'Mexico', SUM(ex.Mexico), SUM(im.Mexico) FROM `exports by countries` ex JOIN `imports by countries` im ON ex.Period = im.Period
    UNION ALL SELECT 'Netherlands', SUM(ex.Netherlands), SUM(im.Netherlands) FROM `exports by countries` ex JOIN `imports by countries` im ON ex.Period = im.Period
    UNION ALL SELECT 'Saudi Arabia', SUM(ex.`Saudi Arabia`), SUM(im.`Saudi Arabia`) FROM `exports by countries` ex JOIN `imports by countries` im ON ex.Period = im.Pe
    UNION ALL SELECT 'Singapore', SUM(ex.Singapore), SUM(im.Singapore) FROM `exports by countries` ex JOIN `imports by countries` im ON ex.Period = im.Period
    UNION ALL SELECT 'Switzerland', SUM(ex.Switzerland), SUM(im.Switzerland) FROM `exports by countries` ex JOIN `imports by countries` im ON ex.Period = im.Period
    UNION ALL SELECT 'Taiwan', SUM(ex.Taiwan), SUM(im.Taiwan) FROM `exports by countries` ex JOIN `imports by countries` im ON ex.Period = im.Period
    UNION ALL SELECT 'United Kingdom', SUM(ex.`United Kingdom`), SUM(im.`United Kingdom`) FROM `exports by countries` ex JOIN `imports by countries` im ON ex.Period =
    UNION ALL SELECT 'Vietnam', SUM(ex.Vietnam), SUM(im.Vietnam) FROM `exports by countries` ex JOIN `imports by countries` im ON ex.Period = im.Period
) temp
ORDER BY trade_difference ASC
LIMIT 5;
```

Output:

country	trade_difference
Switzerland	76019
Ireland	146383
Israel	189303
United Kingdom	229550
Saudi Arabia	230952