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SQL Project

Dataset - World Happiness Index

- 1) Which are the top 10 happiest countries in the given dataset?

```
SELECT Country, Happiness_Score FROM Happiness_Index ORDER BY Happiness_Score DESC LIMIT 10;
```

The screenshot shows a SQLite database interface with the following details:

- Database:** SQLite 0.1.3 beta
- Tables:** demo, Happiness_Index
- Columns:** Country, Region, Happiness_Rank, Happiness_Score, Standard_Error, Economy_(GDP_per_capita), Family, Health_(life_Expectancy), Freedom, Trust_(Government_trust), Generosity, Dystopia_Residual
- Query:** SELECT Country, Happiness_Score FROM Happiness_Index ORDER BY Happiness_Score DESC LIMIT 10;
- Results:** A table showing the top 10 happiest countries with their scores.

Country	Happiness_Score
Switzerland	7.587
Iceland	7.561
Denmark	7.527
Norway	7.522
Canada	7.427
Finland	7.406
Netherlands	7.378
Sweden	7.364

2) What is the average happiness score across all countries and years?

```
SELECT AVG(happiness_score) FROM Happiness_Index;
```

The screenshot shows a SQLite database interface with a sidebar containing database connections (SQLite 0.1.3 beta, MariaDB, PostgreSQL, MS SQL) and tables (demo, Happiness_Index). The main area displays the following SQL code and its result:

```
276 --FROM Happiness_Index ORDER BY Rank_Score_Gap DESC LIMIT 10;
277
278 SELECT AVG(happiness_score) FROM Happiness_Index;
279
280
281
282
283
284
285
286
287
288
```

Result:

AVG(happiness_score)
5.37573417721519

3) Which are the bottom 10 Countries with the lowest Happiness Score?

```
SELECT Country, Happiness_Rank, Happiness_Score FROM Happiness_Index ORDER BY Happiness_Rank DESC LIMIT 10;
```

The screenshot shows a SQLite database interface with a sidebar containing database connections (SQLite 0.1.3 beta, MariaDB, PostgreSQL, MS SQL) and tables (demo, Happiness_Index). The main area displays the following SQL code and its result:

```
276
277
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282
```

Result:

Country	Happiness_Rank	Happiness_Score
Togo	158	2.839
Burundi	157	2.905
Syria	156	3.006
Benin	155	3.34
Rwanda	154	3.465
Afghanistan	153	3.575
Burkina Faso	152	3.587
Ivory Coast	151	3.655

- 4) Which are the countries with Happiness Rank and Happiness Score below the Global Average?

```
SELECT Country, Happiness_Rank, Happiness_Score FROM Happiness_Index WHERE Happiness_Rank > (SELECT AVG(Happiness_Rank) FROM Happiness_Index) AND Happiness_Score < (SELECT AVG(Happiness_Score) FROM Happiness_Index) ORDER BY Happiness_Rank ASC;
```

The screenshot shows a SQLite database interface with two panes. The left pane displays the schema of the 'Happiness_Index' table, which includes columns for Country, Region, Happiness_Rank, Happiness_Score, Standard_Error, GDP_per_Capita, Family, Life_Expectancy, Freedom, Trust_Government_C, Generosity, and Dystopia_Residual. The right pane shows the results of the SQL query, which lists countries with Happiness_Rank greater than the average and Happiness_Score less than the average. The results are as follows:

Country	Happiness_Rank	Happiness_Score
Azerbaijan	80	5.212
Pakistan	81	5.194
Jordan	82	5.192
Montenegro	82	5.192
China	84	5.14
Zambia	85	5.129
Romania	86	5.124
Serbia	87	5.123

- 5) Which are the countries with significant gaps between Happiness Rank and Happiness Score?

```
SELECT Country, Happiness_Rank, Happiness_Score, (Happiness_Rank - Happiness_Score)
AS Rank_Score_Gap FROM Happiness_Index ORDER BY Rank_Score_Gap DESC LIMIT
10;
```

The screenshot shows a SQLite database interface with the following details:

- Left Sidebar:** Shows databases (SQLite, 0.1.3 beta), tables (demo, Happiness_Index), and columns (Country, Region, Happiness_Rank, Happiness_Score, Standard_Error, GDP_per_Capita, Family, Life_Expectancy, Freedom, Trust_Government_C, Generosity, Dystopia_Residual).
- Top Bar:** Shows the connection to "SQLite" and various icons.
- Code Area:** Displays the SQL query:

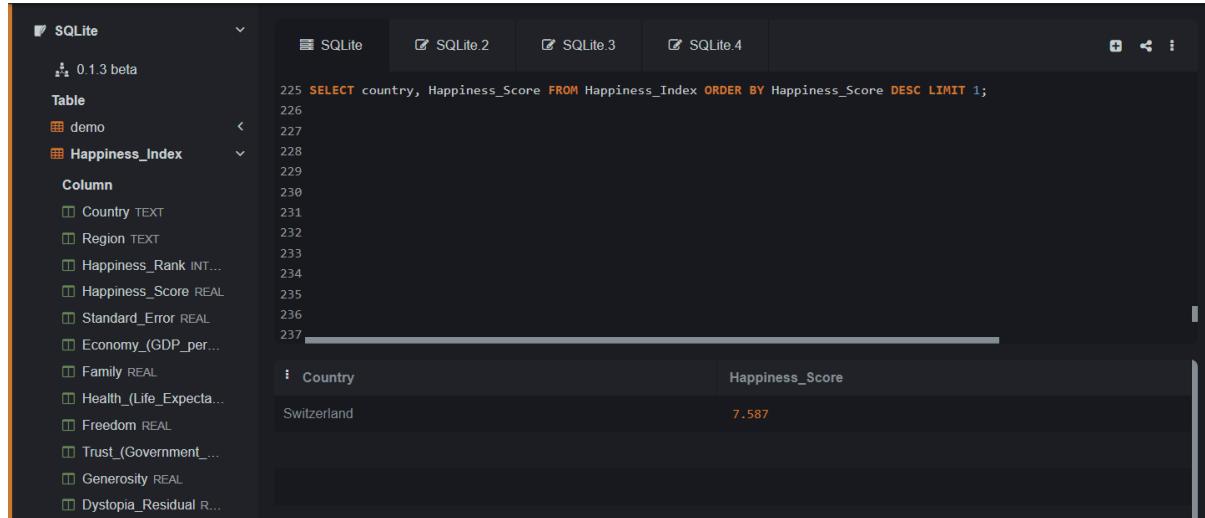
```
275 SELECT Country, Happiness_Rank, Happiness_Score, (Happiness_Rank - Happiness_Score) AS Rank_Score_Gap
276 FROM Happiness_Index ORDER BY Rank_Score_Gap DESC LIMIT 10;
```
- Results Area:** A table showing the results of the query. The table has columns: Country, Happiness_Rank, Happiness_Score, and Rank_Score_Gap. The data is as follows:

Country	Happiness_Rank	Happiness_Score	Rank_Score_Gap
Togo	158	2.839	155.161
Burundi	157	2.905	154.095
Syria	156	3.006	152.994
Benin	155	3.34	151.66
Rwanda	154	3.465	150.535
Afghanistan	153	3.575	149.425
Burkina Faso	152	3.587	148.413
Ivory Coast	151	3.655	147.345

- 6) Find the countries with the maximum and minimum happiness scores in the dataset.

```
SELECT country, Happiness_Score FROM Happiness_Index ORDER BY Happiness_Score DESC LIMIT 1;
```

```
SELECT Country, Happiness_Score FROM Happiness_Index ORDER BY Happiness_Score ASC LIMIT 1;
```

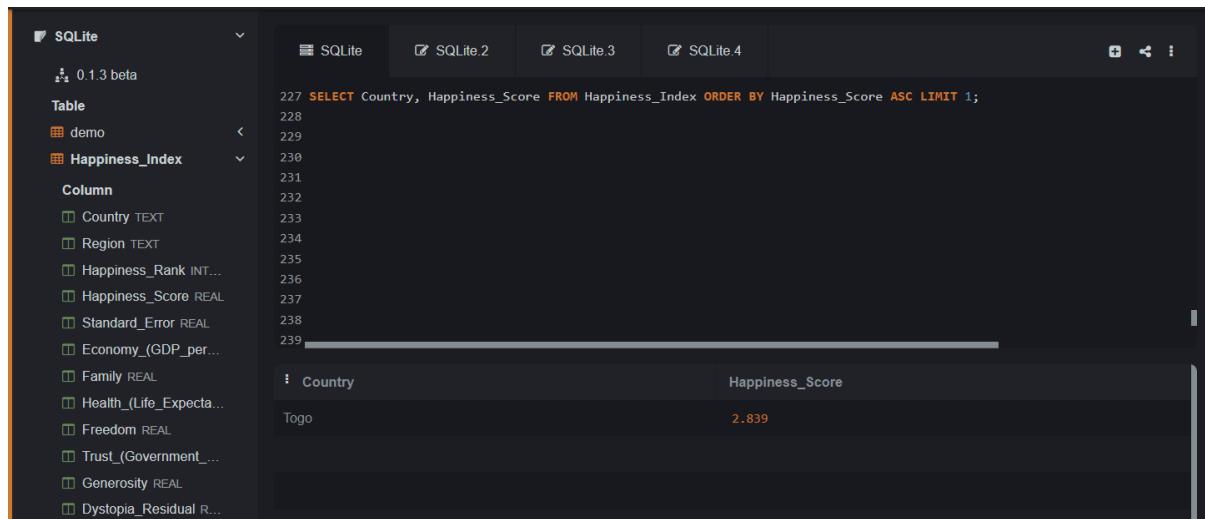


This screenshot shows the SQLite Manager interface. On the left, the database structure is visible, including a table named 'Happiness_Index' with columns: Country, Region, Happiness_Rank, Happiness_Score, Standard_Error, Economy_(GDP_per_capita), Family, Health_(Life_Expectancy), Freedom, Trust_(Government_trust), Generosity, and Dystopia_Residual. The main area displays the results of a SQL query:

```
225 SELECT country, Happiness_Score FROM Happiness_Index ORDER BY Happiness_Score DESC LIMIT 1;
```

The result table shows one row:

Country	Happiness_Score
Switzerland	7.587



This screenshot shows the SQLite Manager interface, similar to the previous one. The database structure is identical. The main area displays the results of a different SQL query:

```
227 SELECT Country, Happiness_Score FROM Happiness_Index ORDER BY Happiness_Score ASC LIMIT 1;
```

The result table shows one row:

Country	Happiness_Score
Togo	2.839

7) Which regions have the highest average happiness score?

```
SELECT Region, AVG(Happiness_Score) AS Avg_Happiness_Score FROM Happiness_Index GROUP BY Region ORDER BY Avg_Happiness_Score DESC;
```

The screenshot shows a SQLite database interface with a sidebar containing tables and columns. The main area displays the SQL query and its results.

SQL Query:

```
226
227 SELECT Region, AVG(Happiness_Score) AS Avg_Happiness_Score
228 FROM happiness_data
229 GROUP BY Region
230 ORDER BY Avg_Happiness_Score DESC;
```

Results:

Region	Avg_Happiness_Score
Australia and New Zealand	7.285
North America	7.273
Western Europe	6.689619047619048
Latin America and Caribbean	6.144681818181818
Eastern Asia	5.626166666666666
Middle East and Northern Africa	5.406899999999999
Central and Eastern Europe	5.332931034482758
Southeastern Asia	5.317444444444444

8) What countries have high freedom scores < 0.6 and high happiness greater than 7?

```
SELECT Country, Happiness_Score, Freedom FROM Happiness_Index WHERE Freedom > 0.6 AND Happiness_Score > 7 ORDER BY Happiness_Score DESC;
```

The screenshot shows a SQLite database interface with a sidebar containing tables and columns. The main area displays the SQL query and its results.

SQL Query:

```
243
244 SELECT Country, Happiness_Score, Freedom
245 FROM Happiness_Index
246 WHERE Freedom > 0.6 AND Happiness_Score > 7 ORDER BY Happiness_Score DESC;
```

Results:

Country	Happiness_Score	Freedom
Switzerland	7.587	0.66557
Iceland	7.561	0.62877
Denmark	7.527	0.64938
Norway	7.522	0.66973
Canada	7.427	0.63297
Finland	7.406	0.64169
Netherlands	7.378	0.61576
Sweden	7.364	0.6598

9) Find the correlation between GDP per capita and happiness score.

```
SELECT gdp_per_capita, Happiness_Score FROM Happiness_Index ORDER BY gdp_per_capita DESC;
```

The screenshot shows a SQLite database interface with a sidebar containing connection lists for SQLite, MariaDB, PostgreSQL, and MS SQL. The main area displays a code editor with the following SQL query:

```
256
257 SELECT gdp_per_capita, Happiness_Score FROM Happiness_Index ORDER BY gdp_per_capita DESC;
258
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263
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265
266
267
268
```

Below the code editor is a table view showing the results of the query:

GDP_per_Capita	Happiness_Score
1.69042	6.611
1.56391	6.946
1.55422	6.295
1.52186	6.798
1.459	7.522
1.42727	6.901
1.39651	7.587
1.39541	6.411

10) Which are the countries with Life_Expectancy above average?

```
SELECT Country, Life_Expectancy FROM Happiness_Index WHERE Life_Expectancy > (SELECT AVG(Life_Expectancy) FROM Happiness_Index);
```

The screenshot shows the SQLite Manager interface. On the left, the database tree shows 'Happiness_Index' with its columns: Country, Region, Happiness_Rank, Happiness_Score, Standard_Error, GDP_per_Capita, Family, Life_Expectancy, Freedom, Trust_Government_C, Generosity, and Dystopia_Residual. The main pane displays the results of the SQL query:

Country	Life_Expectancy
Switzerland	0.94143
Iceland	0.94784
Denmark	0.87464
Norway	0.88521
Canada	0.90563
Finland	0.88911
Netherlands	0.89284
Sweden	0.91087

11) Find the Correlation Between Family Support and Happiness Score.

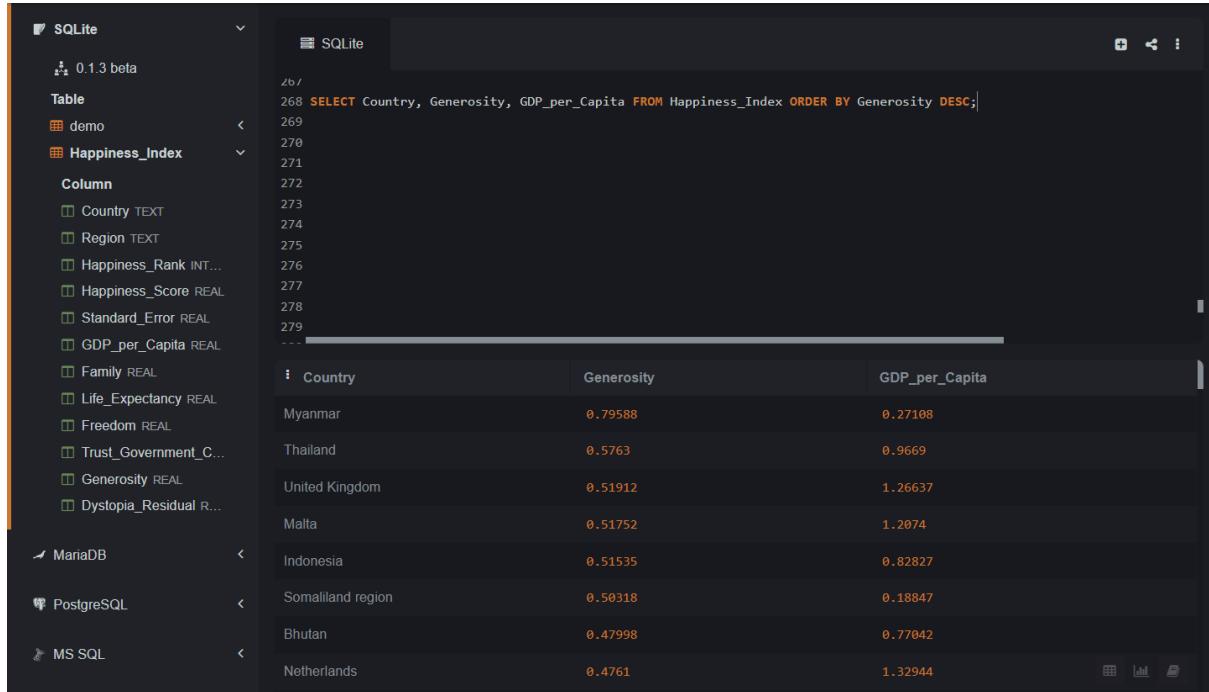
```
SELECT Country, family, Happiness_Score FROM Happiness_Index ORDER BY family DESC;
```

The screenshot shows the SQLite Manager interface. On the left, the database tree shows 'Happiness_Index' with its columns. The main pane displays the results of the SQL query:

Country	Family	Happiness_Score
Iceland	1.40223	7.561
Ireland	1.36948	6.94
Denmark	1.36058	7.527
Switzerland	1.34951	7.587
Uzbekistan	1.34043	6.003
Norway	1.33095	7.522
Canada	1.32261	7.427
New Zealand	1.31967	7.286

12) How does Freedom compare to other factors (like corruption or generosity) across countries?

SELECT country, freedom, corruption, generosity FROM Happiness_Index ORDER BY freedom DESC LIMIT 10;

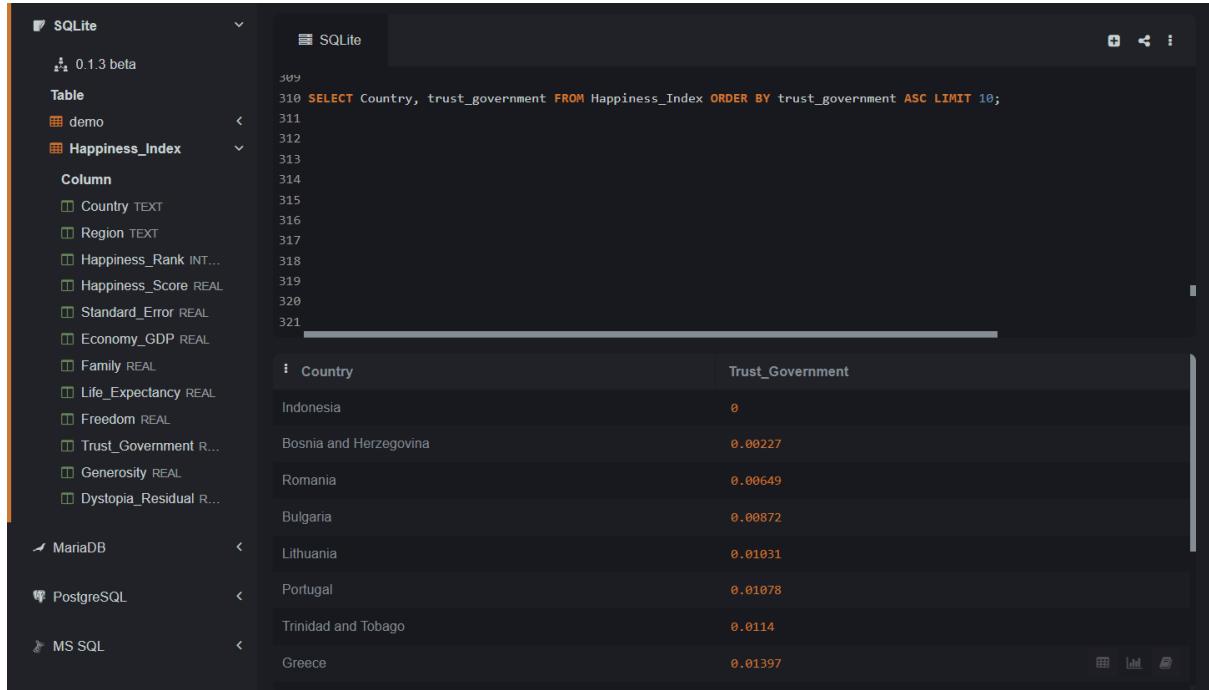


The screenshot shows the SQLite Manager interface with two panes. The left pane displays the database schema, including tables like 'demo' and 'Happiness_Index' with their respective columns such as Country, Region, Happiness_Rank, Happiness_Score, Standard_Error, GDP_per_Capita, Family, Life_Expectancy, Freedom, Trust_Government_C..., Generosity, and Dystopia_Residual. The right pane shows the results of the SQL query:

Country	Generosity	GDP_per_Capita
Myanmar	0.79588	0.27108
Thailand	0.5763	0.9669
United Kingdom	0.51912	1.26637
Malta	0.51752	1.2074
Indonesia	0.51535	0.82827
Somaliland region	0.50318	0.18847
Bhutan	0.47998	0.77042
Netherlands	0.4761	1.32944

13) Which are the top 10 countries with the Lowest Government Trust?

SELECT Country, trust_government FROM Happiness_Index ORDER BY trust_government ASC LIMIT 10;



The screenshot shows the SQLite Manager interface with two panes. The left pane displays the database schema, including tables like 'demo' and 'Happiness_Index' with their respective columns such as Country, Region, Happiness_Rank, Happiness_Score, Standard_Error, Economy_GDP, Family, Life_Expectancy, Freedom, Trust_Government_C..., Generosity, and Dystopia_Residual. The right pane shows the results of the SQL query:

Country	Trust_Government
Indonesia	0
Bosnia and Herzegovina	0.00227
Romania	0.00649
Bulgaria	0.00872
Lithuania	0.01031
Portugal	0.01078
Trinidad and Tobago	0.0114
Greece	0.01397

14) How does the level of corruption affect the happiness score in different regions?

```
SELECT region, AVG(corruption) AS avg_corruption, AVG(happiness_score) AS avg_happiness FROM Happiness_Index GROUP BY region;
```

Region	avg_corruption	avg_happiness
Australia and New Zealand	0.392795	7.285
Central and Eastern Europe	0.08667379310344828	5.332931034482758
Eastern Asia	0.127695	5.626166666666666
Latin America and Caribbean	0.1171718181818182	6.144681818181818
Middle East and Northern Africa	0.18170199999999997	5.406899999999999
North America	0.24423499999999998	7.273
Southeastern Asia	0.15127555555555555	5.317444444444444
Southern Asia	0.10253571428571429	4.580857142857143

15) Find the relationship between generosity and economic wealth.

```
SELECT Country, Generosity, GDP_per_Capita FROM Happiness_Index ORDER BY Generosity DESC;
```

Country	Generosity	GDP_Per_Capita
Myanmar	0.79588	0.27108
Thailand	0.5763	0.9669
United Kingdom	0.51912	1.26637
Malta	0.51752	1.2074
Indonesia	0.51535	0.82827
Somaliland region	0.50318	0.18847
Bhutan	0.47998	0.77042
Netherlands	0.4761	1.32944

- 16) For the countries with the highest happiness scores, how much does Generosity contribute to the happiness score?

```
SELECT country, happiness_score, generosity, happiness_score - generosity AS  
happiness_less_generosity FROM Happiness_Index ORDER BY happiness_score DESC  
LIMIT 10;
```

The screenshot shows a SQLite database interface with a sidebar containing database connections and tables. The main area displays a SQL query and its results.

SQLite (0.1.3 beta)

Table

- demo
- Happiness_Index
 - Column**
 - Country TEXT
 - Region TEXT
 - Happiness_Rank INT...
 - Happiness_Score REAL
 - Standard_Error REAL
 - GDP_Per_Capita REAL
 - Family REAL
 - Life_Expectancy REAL
 - Freedom REAL
 - Corruption REAL
 - Generosity REAL
 - Dystopia_Residual R...

MariaDB

PostgreSQL

MS SQL

SQL (SQLite)

```
325 SELECT country, happiness_score, generosity, happiness_score - generosity AS happiness_less_generosity
326 FROM Happiness_Index ORDER BY happiness_score DESC LIMIT 10;
327
328
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334
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336
337
```

Country	Generosity	GDP_Per_Capita
Myanmar	0.79588	0.27108
Thailand	0.5763	0.9669
United Kingdom	0.51912	1.26637
Malta	0.51752	1.2074
Indonesia	0.51535	0.82827
Somaliland region	0.50318	0.18847
Bhutan	0.47998	0.77042
Netherlands	0.4761	1.32944

17) Find the Generosity in Finland.

```
SELECT Generosity FROM Happiness_Index WHERE Country = 'Finland';
```

The screenshot shows a SQLite database interface with a dark theme. On the left, there's a sidebar with a tree view of databases and tables. Under the 'SQLite' section, '0.1.3 beta' is selected, showing a 'Table' node with 'demo' and 'Happiness_Index'. The 'Happiness_Index' node has a 'Column' node expanded, listing various columns like 'Country', 'Region', 'Happiness_Rank', etc. To the right, the main area shows the results of the SQL query. The output window title is 'SQLite' and it displays the following:

```
268
269 SELECT Generosity FROM Happiness_Index WHERE Country = 'Finland';
270
271
272
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280
```

Below the query results, there is a single row labeled 'Generosity' with the value '0.23351'.

18) Which are the countries with High Happiness and Low Dystopia Residual?

```
SELECT Country, Happiness_Score, Dystopia_Residual FROM Happiness_Index WHERE Dystopia_Residual < 1.0 ORDER BY Happiness_Score DESC;
```

The screenshot shows the SQLite Manager interface. On the left, there's a sidebar with database connections: SQLite (0.1.3 beta), MariaDB, PostgreSQL, and MS SQL. The main area has a code editor with the following SQL query:

```
268 SELECT Country, Happiness_Score, Dystopia_Residual FROM Happiness_Index
269 WHERE Dystopia_Residual < 1.0 ORDER BY Happiness_Score DESC;
270
271
272
273
274
275
276
277
278
279
```

Below the code editor is a table with the results:

Country	Happiness_Score	Dystopia_Residual
Hong Kong	5.474	0.65429
Sri Lanka	4.271	0.67108
Bulgaria	4.218	0.89991
Gabon	3.896	0.99895
Cambodia	3.819	0.98195
Rwanda	3.465	0.67042
Syria	3.006	0.32858

19) Which are the countries with dystopia_residual above threshold 3.0?

```
SELECT Country, Dystopia_Residual FROM Happiness_Index WHERE Dystopia_Residual > 3.0 ORDER BY Dystopia_Residual DESC;
```

The screenshot shows the SQLite Manager interface. On the left, there's a sidebar with database connections: SQLite (0.1.3 beta), MariaDB, PostgreSQL, and MS SQL. The main area has a code editor with the following SQL query:

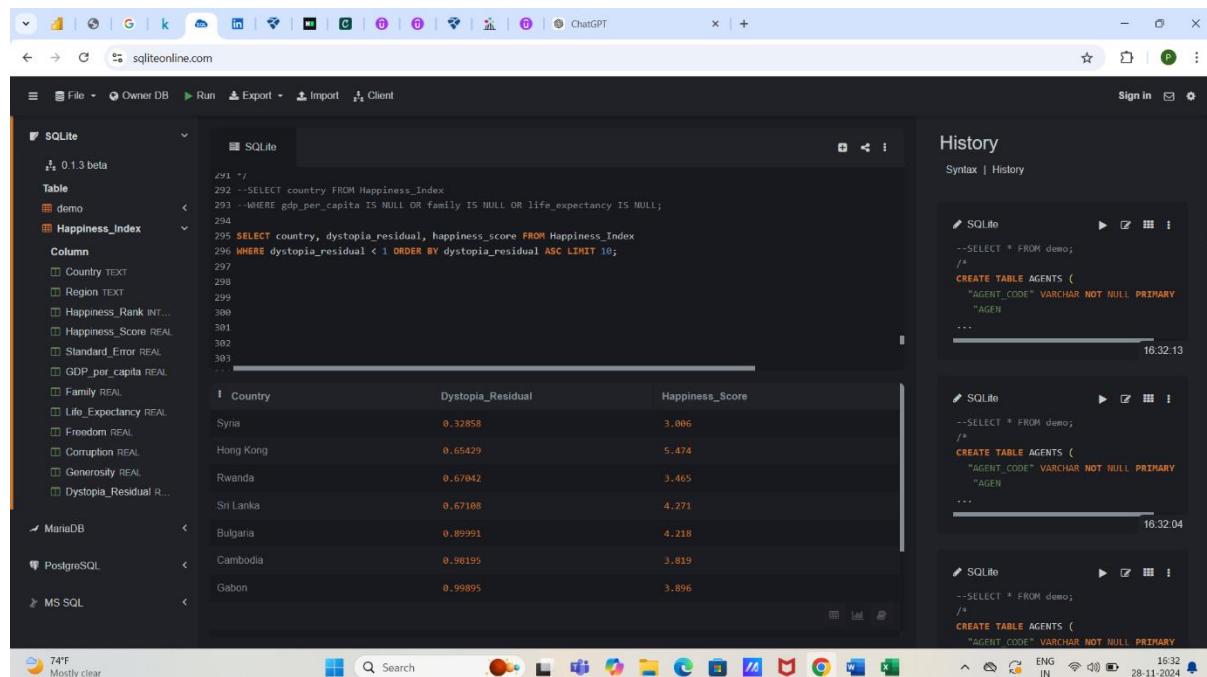
```
272
273 SELECT Country, Dystopia_Residual FROM Happiness_Index WHERE Dystopia_Residual > 3.0 ORDER BY Dystopia_Residual DESC;
274
275
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281
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283
284
```

Below the code editor is a table with the results:

Country	Dystopia_Residual
Mexico	3.60214
Brazil	3.26001
Venezuela	3.19131
Costa Rica	3.17728
Moldova	3.10712
Pakistan	3.10709
Israel	3.08854
Mozambique	3.05137

20) List the countries with the highest negative Dystopia Residuals.

```
SELECT country, dystopia_residual, happiness_score FROM Happiness_Index WHERE dystopia_residual < 1 ORDER BY dystopia_residual ASC LIMIT 10;
```



The screenshot shows the SQLiteOnline.com web-based SQL editor. The left sidebar lists databases: 'SQLite' (selected), 'demo', 'Happiness_Index', 'MariaDB', 'PostgreSQL', and 'MS SQL'. The main area displays the following SQL code:

```
291 /*
292 --SELECT country FROM Happiness_Index
293 --WHERE gdp_per_capita IS NULL OR family IS NULL OR life_expectancy IS NULL;
294
295 SELECT country, dystopia_residual, happiness_score FROM Happiness_Index
296 WHERE dystopia_residual < 1 ORDER BY dystopia_residual ASC LIMIT 10;
297
298
299
300
301
302
303
```

Below the code, a table lists the results:

Country	Dystopia_Residual	Happiness_Score
Syria	0.32858	3.006
Hong Kong	0.65429	5.474
Rwanda	0.67042	3.465
Sri Lanka	0.67108	4.271
Bulgaria	0.89991	4.218
Cambodia	0.98195	3.819
Gabon	0.99895	3.896

The right side of the interface shows a 'History' panel with previous queries and their execution times: 16.32.13, 16.32.04, and 16.32.04. The bottom status bar shows the date and time as 28-11-2024.