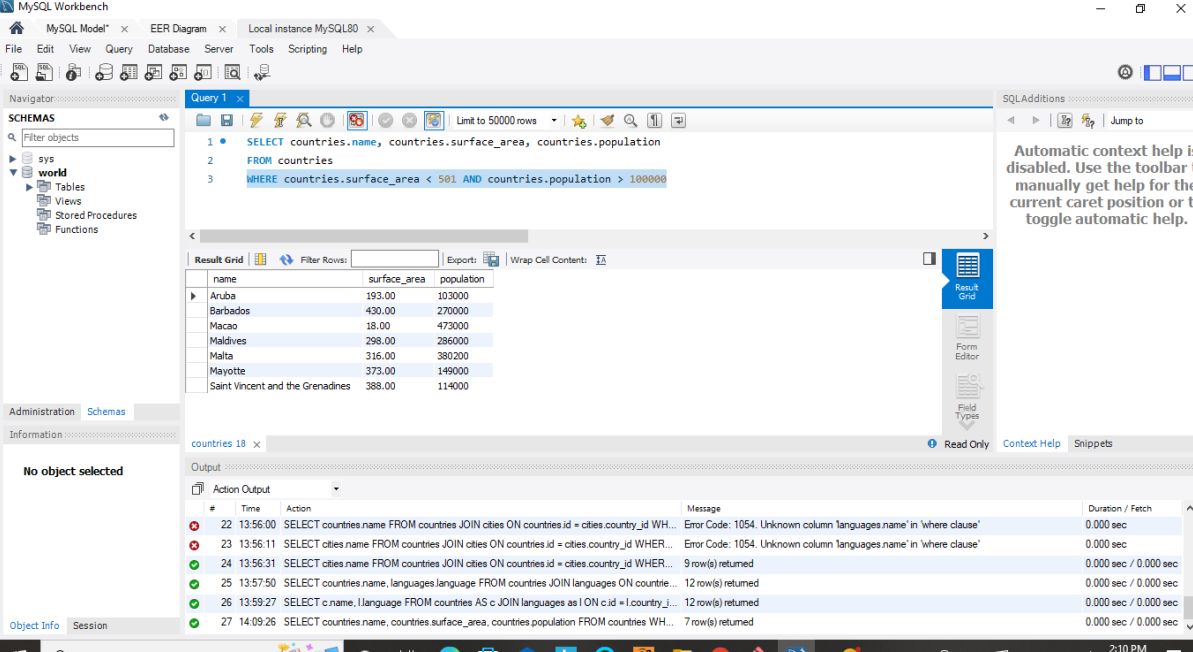


## Solutions to SQL Queries (Countries)

*Table aliasing is not used in these example solutions, but it is perfectly acceptable if students chose to implement this practice.*

1. What query would you run to get all the countries with Surface Area below 501 and Population greater than 100,000? Include the country name, surface area, and population in your results.



The screenshot shows the MySQL Workbench interface. The 'Query' tab is active, displaying the following SQL query:

```
1 SELECT countries.name, countries.surface_area, countries.population
2 FROM countries
3 WHERE countries.surface_area < 501 AND countries.population > 100000
```

The 'Result Grid' shows the results of the query, which are 18 rows. The columns are 'name', 'surface\_area', and 'population'. The results are as follows:

name	surface_area	population
Aruba	193.00	103000
Barbados	430.00	270000
Macao	18.00	473000
Maldives	298.00	286000
Malta	316.00	380200
Mayotte	373.00	149000
Saint Vincent and the Grenadines	388.00	114000

The 'Output' tab at the bottom shows the execution log, including the query and the results. The log indicates that the query was executed successfully and returned 18 rows.

2. What query would you run to get countries with only Constitutional Monarchy with a capital greater than 200 and a life expectancy greater than 75 years? Include the country name, form of government, and capital in your results.

MySQL Workbench

MySQL Model\* x EER Diagram x Local instance MySQL80 x

File Edit View Query Database Server Tools Scripting Help

Navigator

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sys

world

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Information

No object selected

Query 1 x

1 SELECT countries.name, countries.government\_form, countries.capital

2 FROM countries

3 WHERE countries.government\_form = 'Constitutional Monarchy'

4 AND countries.life\_expectancy > 75

5 AND countries.capital > 200;

Result Grid

name	government_form	capital
Denmark	Constitutional Monarchy	3315
Spain	Constitutional Monarchy	653
United Kingdom	Constitutional Monarchy	456
Jamaica	Constitutional Monarchy	1530
Jordan	Constitutional Monarchy	1786
Japan	Constitutional Monarchy	1532
Liechtenstein	Constitutional Monarchy	2446
Luxembourg	Constitutional Monarchy	2452
Monaco	Constitutional Monarchy	2695
Norway	Constitutional Monarchy	2807

countries 23 x

Output

Action Output

#	Time	Action	Message	Duration / Fetch
29	14:12:00	EXPLAIN SELE	Error Code: 1146 Table 'world.sele' doesn't exist	
30	14:15:10	SELECT countries.name, countries.government_form, countries.capital FROM countries WH...	0 row(s) returned	0.000 sec / 0.000 sec
31	14:15:54	SELECT countries.name, countries.government_form, countries.capital FROM countries WH...	0 row(s) returned	0.000 sec / 0.000 sec
32	14:16:02	SELECT countries.name, countries.government_form, countries.capital FROM countries WH...	0 row(s) returned	0.000 sec / 0.000 sec
33	14:16:31	SELECT countries.name, countries.government_form, countries.capital FROM countries WH...	0 row(s) returned	0.000 sec / 0.000 sec
34	14:16:55	SELECT countries.name, countries.government_form, countries.capital FROM countries WH...	12 row(s) returned	0.000 sec / 0.000 sec

Object Info Session

Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help.

71°F 2:17 PM 10/11/2022

3. What query would you run to summarize the number of countries in each region? The query should display the name of the region and the number of countries. Also, the query should arrange the result by the number of countries in descending order.

MySQL Workbench

MySQL Model\* x EER Diagram x Local instance MySQL80 x

File Edit View Query Database Server Tools Scripting Help

Navigator

SCHEMAS

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Information

No object selected

Query 1 x

1 SELECT countries.region, COUNT(countries.id) AS num\_countries

2 FROM countries

3 GROUP BY countries.region

4 ORDER BY num\_countries DESC;

Result Grid

region	num_countries
Caribbean	24
Eastern Africa	20
Middle East	18
Western Africa	17
Southern Europe	15
Southern and Central Asia	14
South America	14
Southeast Asia	11
Polynesia	10
Eastern Europe	10
Central Africa	9
Western Europe	9
Central America	8
Eastern Asia	8
Nordic Countries	7
Northern Africa	7
Micronesia	7
Antarctica	5
Australia and New Zealand	5
North America	5

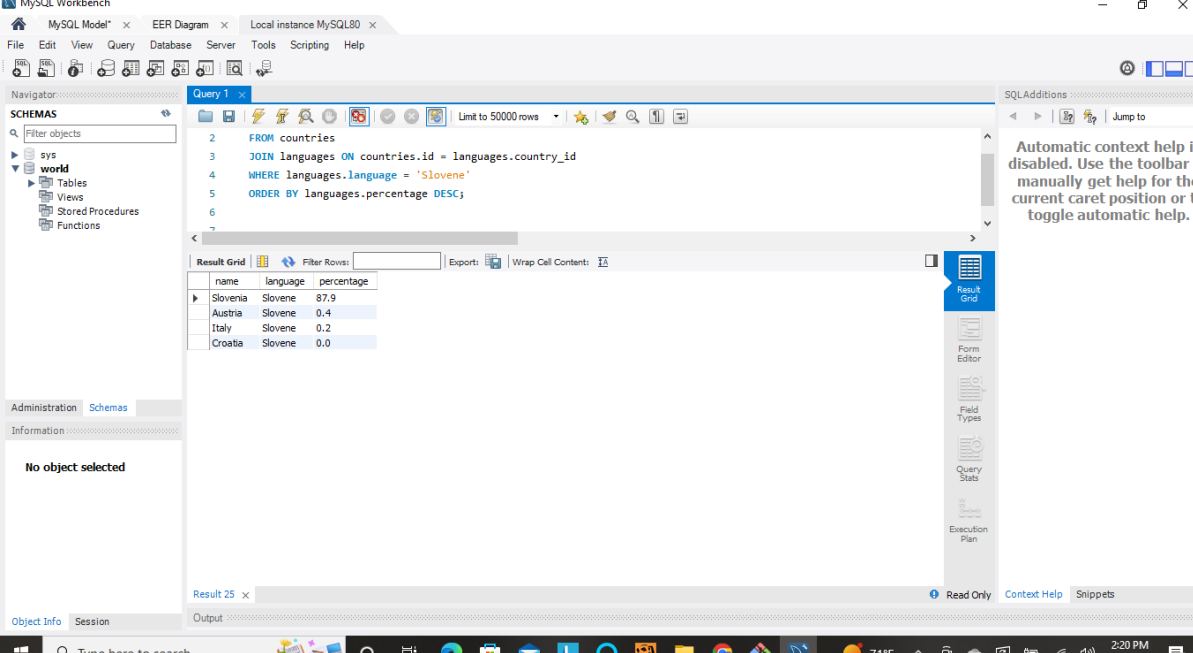
Result 24 x

Output

Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help.

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4. What query would you run to get all the countries that speak Slovene? Your query should return the name of the country, language and language percentage. Your query should arrange the result by language percentage in descending order.



The screenshot shows the MySQL Workbench interface. The 'Query 1' editor contains the following SQL query:

```

2 FROM countries
3 JOIN languages ON countries.id = languages.country_id
4 WHERE languages.language = 'Slovene'
5 ORDER BY languages.percentage DESC;
6

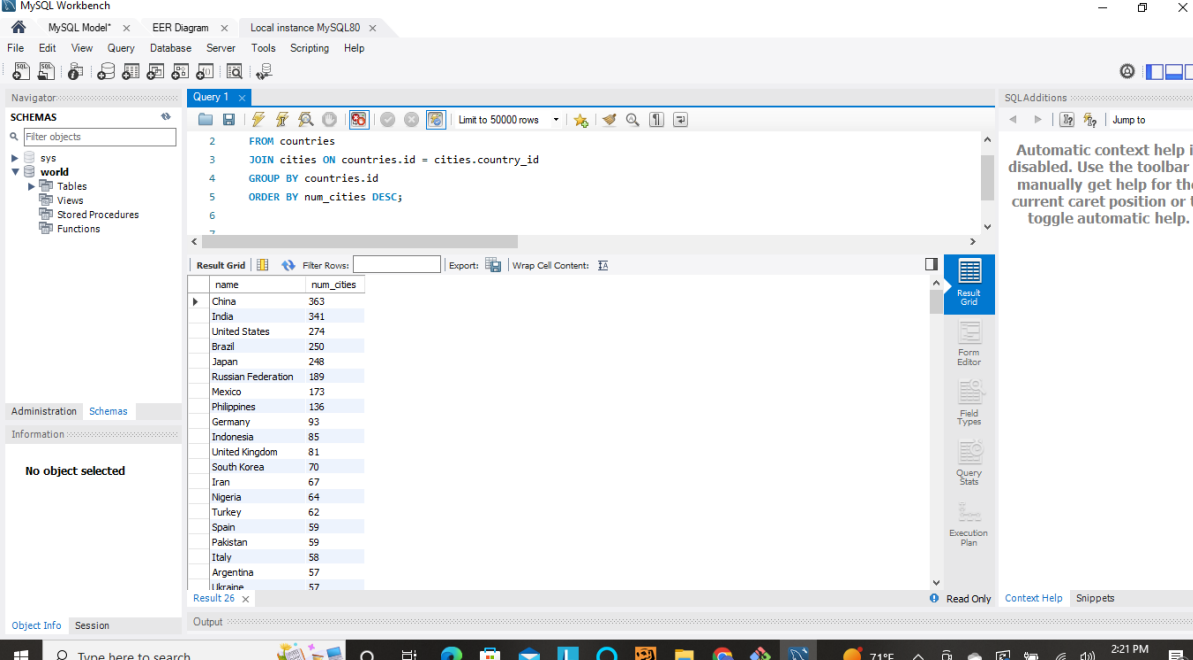
```

The 'Result Grid' shows the following data:

name	language	percentage
Slovenia	Slovene	87.9
Austria	Slovene	0.4
Italy	Slovene	0.2
Croatia	Slovene	0.0

The right sidebar shows a message: "Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help."

5. What query would you run to display the total number of cities for each country? Your query should return the name of the country and the total number of cities. Your query should arrange the result by the number of cities in descending order.



The screenshot shows the MySQL Workbench interface. The 'Query 1' editor contains the following SQL query:

```

2 FROM countries
3 JOIN cities ON countries.id = cities.country_id
4 GROUP BY countries.id
5 ORDER BY num_cities DESC;
6

```

The 'Result Grid' shows the following data:

name	num_cities
China	363
India	341
United States	274
Brazil	250
Japan	248
Russian Federation	189
Mexico	173
Philippines	136
Germany	93
Indonesia	85
United Kingdom	81
South Korea	70
Iran	67
Nigeria	64
Turkey	62
Spain	59
Pakistan	59
Italy	58
Argentina	57
Iran	57

The right sidebar shows a message: "Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help."

Output continues...

6. What query would you run to get all the cities in Mexico with a population of greater than 500,000? Your query should arrange the result by population in descending order.

The screenshot shows the MySQL Workbench interface. The 'Query 1' tab is active, displaying the following SQL query:

```
1 SELECT cities.name, cities.population
2 FROM countries
3 JOIN cities ON countries.id = cities.country_id
4 WHERE countries.name = 'Mexico' AND cities.population > 500000
5 ORDER BY cities.population DESC;
```

The 'Result Grid' shows the following data:

name	population
Ciudad de México	8591309
Guadalajara	1647720
Ecatepec de Morelos	1620303
Puebla	1346176
Nezahualcóyotl	1224924
Juárez	1217818
Tijuana	1212232
León	1133576
Monterrey	1108499
Zapopan	1002239
Naucalpan de Juárez	857511
Mexicali	764902
Culiacán	744659
Acapulco de Juárez	721011
Tlahuepan de Baz	720755
Márida	703324
Chihuahua	670208
San Luis Potosí	669353
Guadalupe	668780
Toluca	666617

The 'Navigator' panel on the left shows the 'world' database selected. The 'SQL Snippets' panel on the right is visible.

7. What query would you run to get all languages in each country with a percentage greater than 89%? Include the country name, language, and percentage. Your query should arrange the result by percentage in descending order.

The screenshot shows the MySQL Workbench interface. The 'Query 1' tab is active, displaying the following SQL query:

```
2 FROM countries
3 JOIN languages ON countries.id = languages.country_id
4 WHERE languages.percentage > 89
5 ORDER BY languages.percentage DESC;
```

The 'Result Grid' shows the following data:

name	language	percentage
Bermuda	English	100.0
Faroe Islands	Faroese	100.0
Cape Verde	Crioulo	100.0
Cuba	Spanish	100.0
Saint Kitts and Nevis	Creole English	100.0
San Marino	Italian	100.0
Grenada	Creole English	100.0
El Salvador	Spanish	100.0
Rwanda	Rwanda	100.0
Dominica	Creole English	100.0
Western Sahara	Arabic	100.0
Maldives	Dhivehi	100.0
Haiti	Haiti Creole	100.0
South Korea	Korean	99.9
North Korea	Korean	99.9
Yemen	Arabic	99.6
Bosnia and Herzego...	Serbo-Croatian	99.2
Saint Vincent and t...	Creole English	99.1
Japan	Japanese	99.1
Portugal	Portuguese	99.0

The 'Navigator' panel on the left shows the 'world' database selected. The 'SQL Snippets' panel on the right is visible.

8. What query would you run to get all the cities of Argentina inside the Buenos Aires district and have the population greater than 500, 000? The query should return the Country Name, City Name, District and Population.

The screenshot shows the MySQL Workbench interface. The 'Query' tab is active, displaying the following SQL query:

```
1 SELECT countries.name, cities.name, cities.district, cities.population
2 FROM countries
3 JOIN cities ON countries.id = cities.country_id
4 WHERE countries.name = 'Argentina'
5 AND cities.district = 'Buenos Aires'
6 AND cities.population > 500000;
7
```

The 'Result Grid' shows the following data:

	name	name	district	population
Argentina	La Matanza	Buenos Aires	1266461	
Argentina	Lomas de Zamora	Buenos Aires	622013	
Argentina	Quilmes	Buenos Aires	559249	
Argentina	Almirante Brown	Buenos Aires	538918	
Argentina	La Plata	Buenos Aires	521936	
Argentina	Mar del Plata	Buenos Aires	512880	

The 'Schemas' panel on the left shows the 'world' database selected. The 'SQL Additions' panel on the right contains a message: 'Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help.'