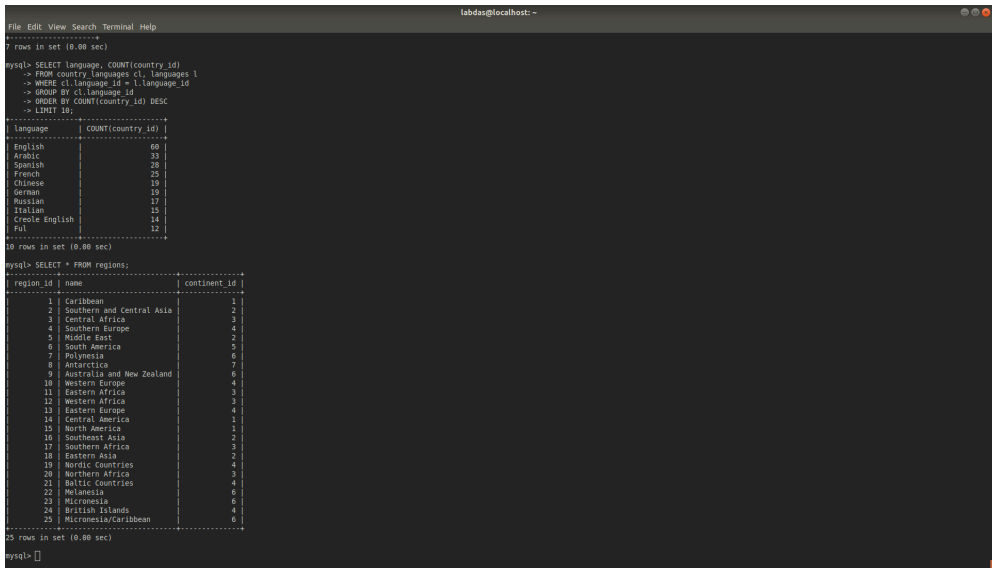


Freindy Sanusi
18221041

Lembar Kerja Praktikum 1
IF2140 Pemodelan Basis Data
Waktu: 100 Menit
7.10 WIB - 8.50 WIB

I. Soal

1. Tampilkan keseluruhan isi tabel regions!

Query	SELECT * FROM regions;
SS	 <pre>mysql> SELECT * FROM regions; +-----+-----+-----+ region_id name continent_id +-----+-----+-----+ 1 Caribbean 1 2 Southern and Central Asia 2 3 Central Africa 3 4 Southern Europe 4 5 Middle East 5 6 South America 6 7 Polynesia 7 8 Antarctica 8 9 Australia and New Zealand 9 10 Western Europe 10 11 Eastern Africa 11 12 Western Africa 12 13 Eastern Europe 13 14 Central America 14 15 North America 15 16 Southeast Asia 16 17 Southern Africa 17 18 Eastern Asia 18 19 Nordic Countries 19 20 Northern Africa 20 21 Baltic Countries 21 22 Melanesia 22 23 Micronesia 23 24 British Islands 24 25 Micronesia/Caribbean 25 +-----+-----+-----+</pre>

2. Tampilkan nama negara-negara yang memiliki luas area lebih dari 5000000 satuan luas!

Query	SELECT name FROM countries WHERE area > 5000000;
-------	--

SS

```

File Edit View Search Terminal Help
labdas@localhost: ~
mysql> SELECT * FROM countries;
+-----+-----+-----+
| region_id | name | continent_id |
+-----+-----+-----+
| 1 | Caribbean | 1 |
| 2 | Southern and Central Asia | 2 |
| 3 | Central Africa | 3 |
| 4 | Southern Europe | 4 |
| 5 | Middle East | 5 |
| 6 | South America | 6 |
| 7 | Polynesia | 7 |
| 8 | Antarctica | 8 |
| 9 | Australia and New Zealand | 9 |
| 10 | Western Europe | 10 |
| 11 | Eastern Africa | 11 |
| 12 | Western Africa | 12 |
| 13 | Eastern Europe | 13 |
| 14 | Central America | 14 |
| 15 | North America | 15 |
| 16 | Southeast Asia | 16 |
| 17 | Southern Africa | 17 |
| 18 | Eastern Asia | 18 |
| 19 | Nordic Countries | 19 |
| 20 | Northern Africa | 20 |
| 21 | Baltic Countries | 21 |
| 22 | Melanesia | 22 |
| 23 | Micronesia | 23 |
| 24 | British Islands | 24 |
| 25 | Micronesia/Caribbean | 25 |
+-----+-----+-----+
25 rows in set (0.01 sec)

mysql> SELECT * FROM regions;
+-----+-----+-----+
| region_id | name | continent_id |
+-----+-----+-----+
| 1 | Caribbean | 1 |
| 2 | Southern and Central Asia | 2 |
| 3 | Central Africa | 3 |
| 4 | Southern Europe | 4 |
| 5 | Middle East | 5 |
| 6 | South America | 6 |
| 7 | Polynesia | 7 |
| 8 | Antarctica | 8 |
| 9 | Australia and New Zealand | 9 |
| 10 | Western Europe | 10 |
| 11 | Eastern Africa | 11 |
| 12 | Western Africa | 12 |
| 13 | Eastern Europe | 13 |
| 14 | Central America | 14 |
| 15 | North America | 15 |
| 16 | Southeast Asia | 16 |
| 17 | Southern Africa | 17 |
| 18 | Eastern Asia | 18 |
| 19 | Nordic Countries | 19 |
| 20 | Northern Africa | 20 |
| 21 | Baltic Countries | 21 |
| 22 | Melanesia | 22 |
| 23 | Micronesia | 23 |
| 24 | British Islands | 24 |
| 25 | Micronesia/Caribbean | 25 |
+-----+-----+-----+
25 rows in set (0.00 sec)

mysql> SELECT name FROM countries WHERE area > 5000000;
+-----+
| name |
+-----+
| Antarctica |
| Australia |
| Brazil |
| Canada |
| China |
| Russian Federation |
| United States |
+-----+
7 rows in set (0.00 sec)

mysql> SELECT language, COUNT(country_id)
FROM country_languages cl, languages l
WHERE cl.language_id = l.language_id
GROUP BY cl.language_id
ORDER BY COUNT(country_id) DESC
LIMIT 10;
+-----+-----+
| language | count(country_id) |
+-----+-----+
| English | 60 |
| Arabic | 33 |
| Spanish | 28 |
| French | 25 |
| Chinese | 19 |
| German | 19 |
| Russian | 17 |
| Italian | 15 |
| Creole English | 14 |
| Ful | 12 |
+-----+-----+
10 rows in set (0.00 sec)

mysql> SELECT * FROM regions;
+-----+-----+-----+
| region_id | name | continent_id |
+-----+-----+-----+

```

3. Tampilkan 10 bahasa yang paling banyak digunakan dan jumlah negara yang menggunakan bahasa tersebut. Kemudian, urutkan secara menurun berdasarkan jumlah negara pengguna bahasa tersebut.

Hint: Gunakan fungsi LIMIT

Query

SELECT language, COUNT(country_id)
FROM country_languages cl, languages l
WHERE cl.language_id = l.language_id
GROUP BY cl.language_id
ORDER BY COUNT(country_id) DESC
LIMIT 10;

SS

```

File Edit View Search Terminal Help
labdas@localhost: ~
mysql> SELECT * FROM countries;
+-----+-----+-----+
| region_id | name | continent_id |
+-----+-----+-----+
| 1 | Caribbean | 1 |
| 2 | Southern and Central Asia | 2 |
| 3 | Central Africa | 3 |
| 4 | Southern Europe | 4 |
| 5 | Middle East | 5 |
| 6 | South America | 6 |
| 7 | Polynesia | 7 |
| 8 | Antarctica | 8 |
| 9 | Australia and New Zealand | 9 |
| 10 | Western Europe | 10 |
| 11 | Eastern Africa | 11 |
| 12 | Western Africa | 12 |
| 13 | Eastern Europe | 13 |
| 14 | Central America | 14 |
| 15 | North America | 15 |
| 16 | Southeast Asia | 16 |
| 17 | Southern Africa | 17 |
| 18 | Eastern Asia | 18 |
| 19 | Nordic Countries | 19 |
| 20 | Northern Africa | 20 |
| 21 | Baltic Countries | 21 |
| 22 | Melanesia | 22 |
| 23 | Micronesia | 23 |
| 24 | British Islands | 24 |
| 25 | Micronesia/Caribbean | 25 |
+-----+-----+-----+
25 rows in set (0.00 sec)

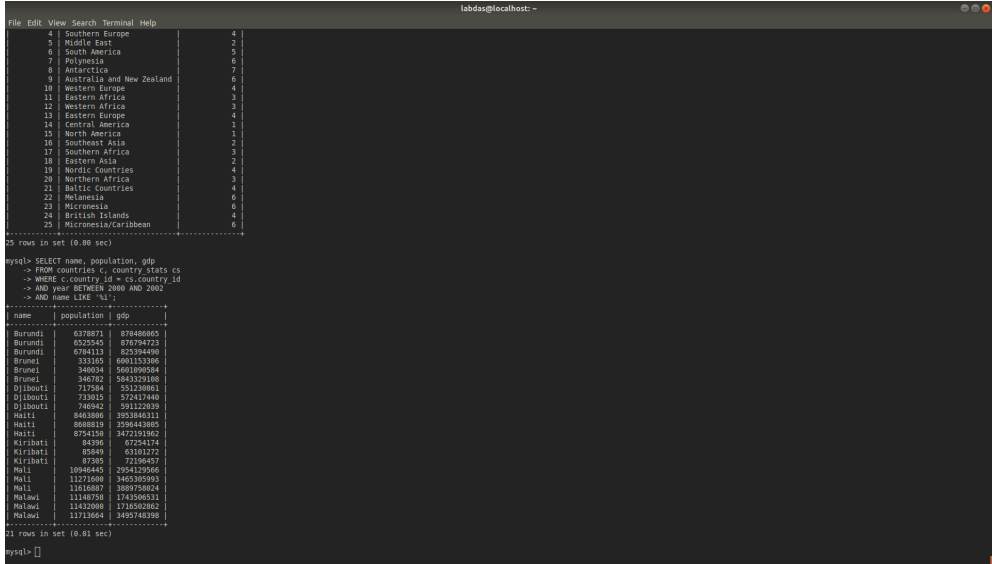
mysql> SELECT name FROM countries WHERE area > 5000000;
+-----+
| name |
+-----+
| Antarctica |
| Australia |
| Brazil |
| Canada |
| China |
| Russian Federation |
| United States |
+-----+
7 rows in set (0.00 sec)

mysql> SELECT language, COUNT(country_id)
FROM country_languages cl, languages l
WHERE cl.language_id = l.language_id
GROUP BY cl.language_id
ORDER BY COUNT(country_id) DESC
LIMIT 10;
+-----+-----+
| language | count(country_id) |
+-----+-----+
| English | 60 |
| Arabic | 33 |
| Spanish | 28 |
| French | 25 |
| Chinese | 19 |
| German | 19 |
| Russian | 17 |
| Italian | 15 |
| Creole English | 14 |
| Ful | 12 |
+-----+-----+
10 rows in set (0.00 sec)

mysql> SELECT * FROM regions;
+-----+-----+-----+
| region_id | name | continent_id |
+-----+-----+-----+

```

4. Tampilkan nama negara, populasi, serta GDP-nya dari tahun 2000 hingga 2002 untuk negara yang diakhiri dengan huruf "i"!

Query	<pre>SELECT name, population, gdp FROM countries c, country_stats cs WHERE c.country_id = cs.country_id AND year BETWEEN 2000 AND 2002 AND name LIKE '%i';</pre>
SS	 <pre>File Edit View Search Terminal Help labdas@localhost: ~ 4 Southern Europe 4 5 Middle East 2 6 South America 2 7 Polynesia 6 8 Antarctica 7 9 Australia and New Zealand 6 10 Western Europe 4 11 Eastern Africa 3 12 Western Africa 3 13 Eastern Europe 4 14 Central America 1 15 North America 1 16 Southeast Asia 2 17 Southern Africa 3 18 Eastern Asia 2 19 Nordic Countries 4 20 Northern Africa 4 21 Baltic Countries 4 22 Melanesia 6 23 Micronesia 6 24 British Islands 4 25 Micronesia-Caribbean 6 26 rows in set (0.00 sec) mysql> SELECT name, population, gdp -> FROM countries c, country_stats cs -> WHERE c.country_id = cs.country_id -> AND year BETWEEN 2000 AND 2002 -> AND name LIKE '%i'; +-----+ name population gdp +-----+ Burundi 6378871 879480865 Burundi 6525545 876794723 Burundi 6784113 852384600 Brunei 333165 680115396 Brunei 346094 560106054 Brunei 346762 584329188 Djibouti 712504 55220881 Djibouti 738815 572417440 Djibouti 746942 591122839 Haiti 8463886 385386311 Haiti 8688819 359643885 Haiti 8754136 347231902 Kiribati 84396 67254174 Kiribati 85449 63881272 Kiribati 87305 72186457 Mali 10946445 205412966 Mali 11271608 3465389983 Mali 11618887 3889758824 Malawi 11148786 174358531 Malawi 11432088 1716582882 Malawi 11713664 3405748388 26 rows in set (0.01 sec) mysql></pre>

5. Buatlah query untuk menampilkan daftar nama countries dan regions untuk negara yang berada di region yang diakhiri oleh huruf 'a' dan memiliki nama country yang terdiri dari 8 karakter. Urutkan menaik berdasarkan nama countries!

Query	<pre>SELECT c.name country_name, r.name regions_name FROM countries c, regions r WHERE c.region_id = r.region_id AND r.name LIKE '%a' AND c.name LIKE '_____', ORDER BY c.name;</pre>
-------	---

SS

```

mysql> source freddy.sql;
(EROR 1064 (42000)) you have an error in your SQL syntax; check the manual that corresponds to your MySQL server version for the right syntax to use near 'a'
mysql> ?
mysql> ?
mysql> No query specified
mysql> SELECT c.name country_name, r.name regions_name
-> FROM countries c, regions r
-> WHERE c.region_id = r.region_id
-> AND r.name LIKE 'a'
-> AND c.name LIKE
-> ORDER BY c.name;
+-----+-----+
| country_name | regions_name |
+-----+-----+
| Botswana     | Southern Africa |
| Cambodia     | Southeast Asia |
| Cameroon     | Central Africa |
| Colombia     | South America |
| Djibouti     | Eastern Africa |
| Ethiopia     | Eastern Africa |
| Honduras     | Central America |
| Kiribati     | Micronesia |
| Malaysia     | Southeast Asia |
| Maldives     | Southern and Central Asia |
| Mongolia     | Eastern Asia |
| Pakistan     | Southern and Central Asia |
| Palau         | Micronesia |
| Paraguay     | South America |
| Suriname     | South America |
| Tanzania     | Eastern Africa |
| Thailand     | Southeast Asia |
| Zimbabwe     | Eastern Africa |
+-----+-----+
18 rows in set (0.01 sec)

```

6. Buatlah query untuk menampilkan nama negara dan luas areanya, untuk negara yang memiliki rata-rata populasi lebih dari 89,7 juta jiwa. Tampilkan data dengan ketentuan terurut menurun berdasarkan luas areanya.

Query

SELECT name, area
FROM countries c, country_stats cs
WHERE c.country_id = cs.country_id
GROUP BY cs.country_id
HAVING AVG(population) > 89700000
ORDER BY area DESC;

SS

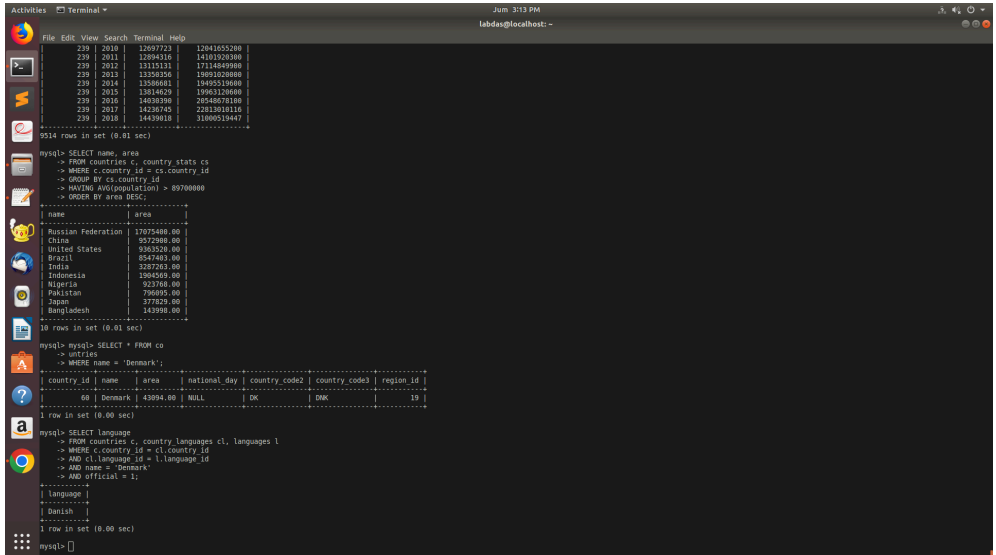
```

mysql> SELECT name, area
-> FROM countries c, country_stats cs
-> WHERE c.country_id = cs.country_id
-> GROUP BY cs.country_id
-> HAVING AVG(population) > 89700000
-> ORDER BY area DESC;
+-----+-----+
| name          | area          |
+-----+-----+
| Russian Federation | 17075400.00 |
| China         | 9572400.00   |
| United States | 952520.00    |
| Brazil        | 854740.00    |
| India         | 328720.00    |
| Indonesia     | 194953.00    |
| Nigeria       | 92370.00     |
| Pakistan      | 79605.00     |
| Japan         | 37739.00     |
| Bangladesh    | 14399.00     |
+-----+-----+
10 rows in set (0.01 sec)

```

7. Nona Nin ingin belajar badminton di Denmark. Oleh karena itu, Nona Nin harus belajar bahasa resmi yang digunakan di Denmark agar dia bisa belajar dengan maksimal untuk memenangkan pertandingan badminton di kompleknya. Nona Nin butuh bantuanmu untuk mengetahui bahasa apa yang harus dia pelajari.

Hint : bahasa resmi adalah ketika kolom official pada tabel country_languages bernilai 1

Query	<pre>SELECT language FROM countries c, country_languages cl, languages l WHERE c.country_id = cl.country_id AND cl.language_id = l.language_id AND name = 'Denmark' AND official = 1;</pre>
SS	 <pre>mysql> SELECT name, area FROM countries c, country_stats cs WHERE c.country_id = cs.country_id GROUP BY c.country_id ORDER BY area DESC; +-----+-----+ name area +-----+-----+ Russian Federation 17075000.00 China 9572800.00 United States 9632600.00 Brazil 8547400.00 India 3287260.00 Indonesia 1904500.00 Nigeria 923760.00 Pakistan 796100.00 Japan 377820.00 Bangladesh 147300.00 +-----+-----+ 10 rows in set (0.01 sec) mysql> SELECT * FROM countries WHERE name = 'Denmark'; +-----+-----+-----+-----+-----+-----+ country_id name area national_day country_code2 country_code3 region_id +-----+-----+-----+-----+-----+-----+ 60 Denmark 43094.00 NULL DK DNK 19 +-----+-----+-----+-----+-----+-----+ 1 row in set (0.00 sec) mysql> SELECT language FROM countries c, country_languages cl, languages l WHERE c.country_id = cl.country_id AND cl.language_id = l.language_id AND name = 'Denmark' AND official = 1; +-----+ language +-----+ Danish +-----+ 1 row in set (0.00 sec) mysql></pre>

8. Buatlah query untuk menampilkan nama negara yang memiliki luas area kelipatan 19. Tampilkan juga gdp tertinggi pada masing-masing negara tersebut di antara tahun 1995 - 2018 *tanpa menggunakan data pada tahun 2011 - 2015*.

Query	<pre>SELECT name, MAX(gdp) FROM countries c, country_stats cs WHERE c.country_id = cs.country_id AND year BETWEEN 1995 AND 2018 AND year NOT BETWEEN 2011 AND 2015 AND area mod 19 = 0 GROUP BY c.country_id;</pre>
-------	---

SS

```
File Edit View Search Terminal Help
labdas@localhost: ~
-> GROUP BY c.country_id;
Empty set (0.01 sec)

mysql> SELECT name
-> FROM countries
-> WHERE area mod 10 = 0;
+-----+
| name |
+-----+
| United Arab Emirates |
| Congo |
| Comoros |
| Western Sahara |
| Guatemala |
| Malawi |
| Papua New Guinea |
| Paraguay |
| Trinidad and Tobago |
| Samoa |
+-----+
11 rows in set (0.00 sec)

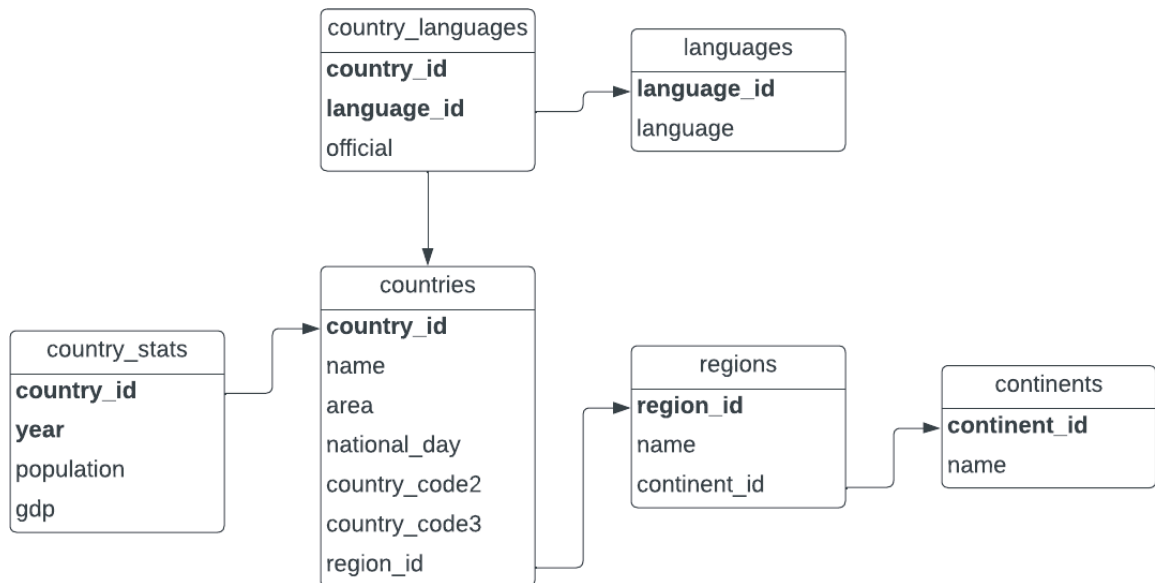
mysql> SELECT *
-> FROM country_stats
-> WHERE gdp BETWEEN 1995 AND 2018
-> AND gdp NOT BETWEEN 2011 AND 2015
-> ;
Empty set (0.01 sec)

mysql> select * from country_stats
-> WHERE gdp = 1995 AND gdp <= 2011 and gdp >= 2015 and gdp <= 2018
-> ;
Empty set (0.01 sec)

mysql> SELECT name, MAX(gdp)
-> FROM countries c, country_stats cs
-> WHERE c.country_id = cs.country_id
-> AND year BETWEEN 1995 AND 2018
-> AND year NOT BETWEEN 2011 AND 2015
-> AND area mod 10 = 0
-> GROUP BY c.country_id;
+-----+
| name | MAX(gdp) |
+-----+
| United Arab Emirates | 41417900000 |
| Congo | 12067880439 |
| Comoros | 120380550 |
| Guatemala | 78460447920 |
| Malawi | 706071176 |
| Papua New Guinea | 2343159214 |
| Paraguay | 4084214174 |
| Trinidad and Tobago | 2197157250 |
| Samoa | 861494700 |
+-----+
9 rows in set (0.01 sec)

mysql> ]
```

II. Skema Basis Data



```
countries = (country_id, name, area, national_day, country_code2,  
             country_code3, region_id)  
country_languages = (country_id, language_id, official)  
languages = (language_id, language)  
country_stats = (country_id, year, population, gdp)  
regions = (region_id, name, continent_id)  
continents = (continent_id, name)
```

III. Hint

1. Pembatasan pada hasil dapat dilakukan dengan fungsi LIMIT(offset, row count) dengan offset dimulai dari 0 seperti indeks pada umumnya dan row count akan mewakili berapa banyak row yang diinginkan.

Contoh:

LIMIT 10 akan menunjukkan 10 row teratas.

LIMIT 2, 5 akan menunjukkan 5 row dimulai dari row ke-3.