

Q1

command: `use world;`

```
MySQL localhost:33060+ ssl world SQL > SHOW TABLES;
+-----+
| Tables_in_world |
+-----+
| city             |
| country          |
| countrylanguage  |
+-----+
3 rows in set (0.0016 sec)
MySQL localhost:33060+ ssl world SQL >
```

Part A: Country and City Information

Command:

```
SELECT Country.Code, Country.Name, City.Name, City.Population
FROM Country, City
WHERE Country.Code = City.CountryCode
AND Country.LifeExpectancy > 75
AND Country.Population < 1000000;
```

Result:

code	name	Population
ABW	Aruba	29034
AIA	Anguilla	961
AIA	Anguilla	595
AND	Andorra	21189
ASM	American Samoa	5200
ASM	American Samoa	2323
BMU	Bermuda	1800
BMU	Bermuda	1200
CYM	Cayman Islands	19600
CYP	Cyprus	195000
CYP	Cyprus	154400
FRO	Faroe Islands	14542
GIB	Gibraltar	27025
GLP	Guadeloupe	62947
GLP	Guadeloupe	12433
GUF	French Guiana	50699
GUM	Guam	9500
GUM	Guam	1139
ISL	Iceland	109184
LIE	Liechtenstein	5346
LIE	Liechtenstein	5043
LUX	Luxembourg	80700
MAC	Macao	437500
MCO	Monaco	13154
MCO	Monaco	1234
MLT	Malta	21445
MLT	Malta	7073
MNP	Northern Mariana Islands	9200
MSR	Montserrat	2000
MTQ	Martinique	94050
SHN	Saint Helena	1500
SMR	San Marino	4802
SMR	San Marino	2294
SPM	Saint Pierre and Miquelon	5808
VGB	Virgin Islands, British	8000
VIR	Virgin Islands, U.S.	13000

36 rows in set (0.0012 sec)

Part B: Cities in German-Speaking Countries

```
SELECT Country.Code, City.Name
FROM Country
JOIN City ON Country.Code = City.CountryCode
JOIN CountryLanguage ON Country.Code = CountryLanguage.CountryCode
WHERE City.Population < 90000
```

```
AND CountryLanguage.Language = 'German'  
AND CountryLanguage.Percentage > 1;
```

Code	Name
CAN	Kelowna
CAN	Barrie
DEU	Velbert
DEU	Esslingen am Neckar
LIE	Schaan
LIE	Vaduz
LUX	Luxembourg [Luxemburg/Lëtzebuerg]

7 rows in set (0.0019 sec)

Q3

Part A: the names of countries and their capitals, where the number of spoken languages is greater than 10.

```
SELECT Country.Name, City.Name AS Capital, COUNT(CountryLanguage.Language)  
AS NumberOfLanguages  
FROM Country  
JOIN City ON Country.Capital = City.ID  
JOIN CountryLanguage ON Country.Code = CountryLanguage.CountryCode  
GROUP BY Country.Name, City.Name  
HAVING COUNT(CountryLanguage.Language) > 10;
```

Name	Capital	NumberOfLanguages
Canada	Ottawa	12
China	Peking	12
India	New Delhi	12
Russian Federation	Moscow	12
Tanzania	Dodoma	11
United States	Washington	12
South Africa	Pretoria	11

7 rows in set (0.0021 sec)

MySQL localhost:33060+ ssl world SQL >

Part B: For countries that have more than 30 cities, display the name of the country along with the number of cities that country has. The result should be displayed in descending order of the number of cities

```
SELECT Country.Name, COUNT(City.Name) AS NumberOfCities
FROM Country
JOIN City ON Country.Code = City.CountryCode
GROUP BY Country.Name
HAVING COUNT(City.Name) > 30
ORDER BY COUNT(City.Name) DESC;
```

Name	NumberOfCities
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
Ukraine	57
Canada	49
Poland	44
South Africa	44
Taiwan	42
Venezuela	41
France	40
Colombia	38
Egypt	37

28 rows in set (0.0063 sec)

MySQL localhost:33060+ ssl world SQL >

Part C: For countries in which Turkish is one of the spoken languages and the average GNP is higher than

80000, display the name of that country along with the total number of languages spoken in that country.

```
SELECT Country.Name, Country.GNP, COUNT(CountryLanguage.Language) AS  
NumberOfLanguages  
FROM Country  
JOIN CountryLanguage ON Country.Code = CountryLanguage.CountryCode  
WHERE CountryLanguage.Language = 'Turkish' AND Country.GNP > 80000  
GROUP BY Country.Name, Country.GNP;
```

Name	GNP	NumberOfLanguages
Austria	211860.00	1
Belgium	249704.00	1
Germany	2133367.00	1
Denmark	174099.00	1
France	1424285.00	1
Greece	120724.00	1
Netherlands	371362.00	1
Turkey	210721.00	1

8 rows in set (0.0009 sec)

MySQL localhost:33060+ ssl world SQL >

Q4

A)

```
CREATE TABLE restaurant (  
  id INT PRIMARY KEY,  
  name VARCHAR(255),  
  type VARCHAR(255),  
  rating INT CHECK(rating BETWEEN 1 AND 5)  
);
```

```
Query OK, 0 rows affected (0.0558 sec)
```

```
MySQL localhost:33060+ ssl world SQL > |
```

B)

```
INSERT INTO restaurant (id, name, type, rating) VALUES
(1, 'Alex Emre Restaurant', 'Italian', 3),
(2, 'El Taquito Loco', 'Mexican', 4),
(3, 'The Greek Taverna', 'Greek', 5),
(4, 'The Wok Inn', 'Chinese', 2),
(5, 'La Pizzeria Bella', 'Italian', 4),
(6, 'The Tap House', 'Pub Food', 1),
(7, 'Bao Bun House', 'Asian Fusion', 4),
(8, 'The Vegan Kitchen', 'Barbecue', 4),
(9, 'La Brasserie Belge', 'Belgian', 4),
(10, 'The Smokestack BBQ', 'Barbecue', 4),
(11, 'Sushi Island', 'Japanese', 3),
(12, 'Smoke Master', 'BBQ', 2);
```

```
Query OK, 12 rows affected (0.0087 sec)
```

```
Records: 12 Duplicates: 0 Warnings: 0
```

```
MySQL localhost:33060+ ssl world SQL > |
```

C)

```
UPDATE restaurant
SET type = 'Vegan'
WHERE name = 'The Vegan Kitchen';
```

```
Query OK, 1 row affected (0.0085 sec)
```

```
Rows matched: 1 Changed: 1 Warnings: 0
```

```
MySQL localhost:33060+ ssl world SQL >
```

D)

```
DELETE FROM restaurant
WHERE name LIKE '%Smoke%';
```

```
Query OK, 2 rows affected (0.0079 sec)
MySQL localhost:33060+ ssl world SQL >
```

Q5

A)

```
CREATE TABLE city_restaurant (
    restaurant_id INT,
    city_id INT,
    PRIMARY KEY (restaurant_id, city_id),
    FOREIGN KEY (restaurant_id) REFERENCES restaurant(id) ON DELETE RESTRICT
ON UPDATE CASCADE,
    FOREIGN KEY (city_id) REFERENCES city(id) ON DELETE RESTRICT ON UPDATE
CASCADE
);
```

```
Query OK, 0 rows affected (0.0300 sec)
MySQL localhost:33060+ ssl world SQL > |
```

B)

```
LOAD DATA INFILE 'city_restaurant.txt'
INTO TABLE city_restaurant
FIELDS TERMINATED BY '\t'
LINES TERMINATED BY '\n'
(restaurant_id, city_id);
```

```
Query OK, 21 rows affected (0.0103 sec)

Records: 21 Deleted: 0 Skipped: 0 Warnings: 0
MySQL localhost:33060+ ssl world SQL >
```

C)


```

SELECT c.id, c.name
FROM city AS c
JOIN city_restaurant AS cr ON c.id = cr.city_id
GROUP BY c.id, c.name
HAVING COUNT(cr.restaurant_id) > 1;

```

```

+-----+-----+
| id    | name      |
+-----+-----+
| 144   | Baku      |
| 459   | Liverpool |
| 462   | Manchester|
| 3357  | Istanbul  |
+-----+-----+
4 rows in set (0.0007 sec)

```

D)

```

SELECT r.id, r.name
FROM restaurant AS r
JOIN city_restaurant AS cr ON r.id = cr.restaurant_id
JOIN city AS c ON cr.city_id = c.id
WHERE c.name = 'Manchester'
AND r.id NOT IN (
    SELECT r.id
    FROM restaurant AS r
    JOIN city_restaurant AS cr ON r.id = cr.restaurant_id
    JOIN city AS c ON cr.city_id = c.id
    WHERE c.name = 'Liverpool'
);

```

```

+----+-----+
| id | name |
+----+-----+
| 3 | The Greek Taverna |
| 7 | Bao Bun House |
| 8 | The Vegan Kitchen |
| 9 | La Brasserie Belge |
+----+-----+
4 rows in set (0.0009 sec)

```

E)

```

UPDATE restaurant AS r
JOIN city_restaurant AS cr ON r.id = cr.restaurant_id
JOIN city AS c ON cr.city_id = c.id
SET r.rating = r.rating - 1
WHERE c.name = 'Baku';

```

```

Query OK, 2 rows affected (0.0019 sec)

```

```

Rows matched: 2  Changed: 2  Warnings: 0

```

```

MySQL localhost:33060+ ssl world SQL >

```

F)

```

SELECT r.id, r.name
FROM restaurant AS r
JOIN city_restaurant AS cr ON r.id = cr.restaurant_id
JOIN city AS c ON cr.city_id = c.ID
JOIN country AS co ON c.CountryCode = co.Code
WHERE co.Name = 'Azerbaijan'
GROUP BY r.id, r.name
HAVING COUNT(DISTINCT c.ID) >= 2;

```

```
+-----+-----+
| id | name |
+-----+-----+
| 3 | The Greek Taverna |
+-----+-----+
1 row in set (0.0008 sec)
```

G)

```
SELECT co.Code, co.Name
FROM country AS co
LEFT JOIN city AS c ON co.Code = c.CountryCode
LEFT JOIN city_restaurant AS cr ON c.ID = cr.city_id
WHERE cr.restaurant_id IS NULL
GROUP BY co.Code, co.Name;
```

Code	Name
ABW	Aruba
AFG	Afghanistan
AGO	Angola
AIA	Anguilla
ALB	Albania
AND	Andorra
ANT	Netherlands Antilles
ARE	United Arab Emirates
ARG	Argentina
ARM	Armenia
ASM	American Samoa
ATA	Antarctica
ATF	French Southern territories
ATG	Antigua and Barbuda
AUS	Australia
AUT	Austria
AZE	Azerbaijan
BDI	Burundi
BEL	Belgium
BEN	Benin
BFA	Burkina Faso
BGD	Bangladesh
BGR	Bulgaria
BHR	Bahrain
BHS	Bahamas
BIH	Bosnia and Herzegovina

The list goes on...

Q6

```
mysqldump -u root -p root world > 'C:\Users\murat\Desktop\HW2\'
```