

## Question 1)

```
mysql> SOURCE F:/HW2/HW2/world.sql
```

```
mysql> SHOW TABLES;
+-----+
| Tables_in_world |
+-----+
| city             |
| country          |
| countrylanguage  |
+-----+
3 rows in set (0.03 sec)
```

## Question 2)

a)

```
mysql> SELECT `Name`, `GNP`
-> FROM `country`
-> WHERE `Continent` = 'Europe' AND `IndepYear` > 1930;
```

Name	GNP
Bosnia and Herzegovina	2841.00
Belarus	13714.00
Czech Republic	55017.00
Germany	2133367.00
Estonia	5328.00
Croatia	20208.00
Iceland	8255.00
Lithuania	10692.00
Latvia	6398.00
Moldova	1579.00
Macedonia	1694.00
Malta	3512.00
Russian Federation	276608.00
Slovakia	20594.00
Slovenia	19756.00
Ukraine	42168.00

```
16 rows in set (0.08 sec)
```

b)

```
mysql> SELECT c.`Code`, c.`Name` AS `Country Name`, ci.`Name` AS `City Name`, ci.`Population`
-> FROM `country` c
-> JOIN `city` ci ON c.`Code` = ci.`CountryCode`
-> WHERE c.`LifeExpectancy` > 75 AND c.`Population` < 1000000;
```

Code	Country Name	City Name	Population
ABW	Aruba	Oranjestad	29834
ALA	Anguilla	South Hill	961
ATA	Anguilla	The Valley	595
AND	Andorra	Andorra la Vella	21189
ASM	American Samoa	Tafuna	5200
ASN	American Samoa	Fagatogo	2323
BMU	Bermuda	Saint George	1800
BMU	Bermuda	Hamilton	1200
CYM	Cayman Islands	George Town	19600
CYP	Cyprus	Nicosia	195000
CYP	Cyprus	Limassol	154400
FRD	Faroe Islands	Tórshavn	14542
GIB	Gibraltar	Gibraltar	27025
GLP	Guadeloupe	Les Abymes	62947
GLP	Guadeloupe	Basse-Terre	12433
GUF	French Guiana	Cayenne	50699
GUM	Guam	Tamuning	9500
GUM	Guam	Agaña	1139
ISL	Iceland	Reykjavik	109184
LIE	Liechtenstein	Schaan	5346
LIE	Liechtenstein	Vaduz	5043
LUX	Luxembourg	Luxembourg [Luxemburg/Lëtzebuerg]	80700
MAC	Macao	Macao	437500
MCO	Monaco	Monte-Carlo	13154
MCO	Monaco	Monaco-Ville	1234
MLT	Malta	Birkirkara	21445
MLT	Malta	Valletta	7873
MNP	Northern Mariana Islands	Garapan	9200
MSR	Montserrat	Plymouth	2000
MTQ	Martinique	Fort-de-France	94050
SHN	Saint Helena	Jamestown	1500
SMR	San Marino	Serravalle	4802
SMR	San Marino	San Marino	2204
SPM	Saint Pierre and Miquelon	Saint-Pierre	5808
VGB	Virgin Islands, British	Road Town	8000
VRG	Virgin Islands, U.S.	Charlotte Amalie	13000

```
36 rows in set (0.05 sec)
```

c)

```
mysql> SELECT DISTINCT l.`Language`  
-> FROM `country` c  
-> JOIN `countrylanguage` l ON c.`Code` = l.`CountryCode`  
-> WHERE c.`SurfaceArea` > 1000000 AND (l.`Percentage` > 50);
```

Language
Spanish
English
Portuguese
Chinese
Arabic
Greenlandic
Mongolian
Hassaniya
Hausa
Russian

```
10 rows in set (0.08 sec)
```

d)

```
mysql> SELECT c.`Code`, c.`Name` AS 'Country Name'  
-> FROM `country` c  
-> JOIN `city` ci ON c.`Code` = ci.`CountryCode`  
-> JOIN `countrylanguage` cl ON c.`Code` = cl.`CountryCode`  
-> WHERE ci.`Population` < 90000 AND cl.`Language` = 'German' AND (cl.`Percentage` > 1);
```

Code	Country Name
CAN	Canada
CAN	Canada
DEU	Germany
DEU	Germany
LIE	Liechtenstein
LIE	Liechtenstein
LUX	Luxembourg

```
7 rows in set (0.08 sec)
```

Question 3)

a)

```
mysql> CREATE TABLE restaurant (  
-> ID INT NOT NULL,  
-> name VARCHAR(255) NOT NULL,  
-> type VARCHAR(255) NOT NULL,  
-> rating INT NOT NULL,  
-> PRIMARY KEY (ID),  
-> UNIQUE (ID),  
-> CHECK (rating BETWEEN 1 AND 5)  
-> );  
Query OK, 0 rows affected (0.10 sec)
```

b)

```
mysql> INSERT INTO restaurant  
-> VALUES  
-> (1, "Gulbarin Macin", "French",5);  
Query OK, 1 row affected (0.07 sec)
```

c)

```
mysql> INSERT INTO restaurant
-> VALUES
-> (2, 'El Taquito Loco', 'Mexican', 4),
-> (3, 'The Greek Taverna', 'Greek', 5),
-> (4, 'The Wok Inn', 'Chinese', 3),
-> (5, 'La Pizzeria Bella', 'Italian', 4),
-> (6, 'The Tap House', 'Pub Food', 3),
-> (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);
Query OK, 10 rows affected (0.02 sec)
Records: 10 Duplicates: 0 Warnings: 0
```

d)

```
mysql> UPDATE restaurant
-> SET type = 'Vegan'
-> WHERE name = 'The Vegan Kitchen';
Query OK, 1 row affected (0.07 sec)
Rows matched: 1 Changed: 1 Warnings: 0

mysql>
```

e)

```
mysql> DELETE FROM restaurant
-> WHERE name = 'The Tap House';
Query OK, 1 row affected (0.07 sec)

mysql>
```

Question 4)

a)

```
mysql> CREATE TABLE city_restaurant (
-> city_id INT NOT NULL,
-> restaurant_id INT NOT NULL,
-> PRIMARY KEY (city_id, restaurant_id),
-> FOREIGN KEY (city_id) REFERENCES city(ID),
-> FOREIGN KEY (restaurant_id) REFERENCES restaurant(ID)
-> );
Query OK, 0 rows affected (0.03 sec)
```

b)

```
mysql> LOAD DATA INFILE 'C:/ProgramData/MySQL/MySQL Server 8.0/Uploads/city_restaurant.txt'
-> INTO TABLE city_restaurant;
Query OK, 21 rows affected (0.09 sec)
Records: 21 Deleted: 0 Skipped: 0 Warnings: 0
```

c)

```
mysql> select ID, Name from city where ID in (select city_id from city_restaurant group by city_id having count(*)>1);
```

ID	Name
144	Baku
459	Liverpool
462	Manchester
3357	Istanbul

4 rows in set (0.00 sec)

d)

```
mysql> select cr.restaurant_id from city c, city_restaurant cr where cr.city_id = c.ID AND c.Name = 'Manchester' except  
-> select cr.restaurant_id from city c, city_restaurant cr where cr.city_id = c.ID AND c.Name = 'Liverpool';
```

restaurant_id
3
7
8
9

4 rows in set (0.00 sec)

```
mysql> select r.ID, r.name from restaurant r where r.ID in (select cr.restaurant_id from city c, city_restaurant cr where cr.city_id = c.ID AND c.Name = 'Manchester' except  
select cr.restaurant_id from city c, city_restaurant cr where cr.city_id = c.ID AND 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 (0.00 sec)

e)

```
mysql> select r.ID, r.name from restaurant r where r.ID in (select cr.restaurant_id from city c, city_restaurant cr where cr.city_id = c.ID AND c.Population > 100000);
```

ID	name
1	Gulbarin Macin
3	The Greek Taverna
4	The Wok Inn
5	La Pizzeria Bella
7	Bao Bun House
8	The Vegan Kitchen
9	La Brasserie Belge

7 rows in set (0.00 sec)

f)

```
mysql> select c.Code, c.Name from country c where c.Name = 'Azerbaijan';
+-----+-----+
| Code | Name      |
+-----+-----+
| AZE  | Azerbaijan |
+-----+-----+
```

```
mysql> select r.ID, r.name from restaurant r where r.ID in
-> (select cr.restaurant_id from city_restaurant cr where cr.city_id in
-> (select c.ID from city c where c.CountryCode = 'Aze')
-> group by cr.restaurant_id having count(*) >=2);
+-----+-----+
| ID | name                |
+-----+-----+
| 3  | The Greek Taverna   |
+-----+-----+
1 row in set (0.00 sec)
```

g)

```
mysql> select crt.Name from country crt where crt.Code in
-> (select distinct c.CountryCode from city c where c.ID not in
-> (select cr.city_id from city_restaurant cr));
```

Name	Code
Aruba	ABW
Afghanistan	AFG
Angola	AGO
Anguilla	AIA
Albania	ALB
Andorra	AND
Netherlands Antilles	ANT
United Arab Emirates	ARE
Argentina	ARG
Armenia	ARM
American Samoa	ASM
Antigua and Barbuda	ATG
Australia	AUS
Austria	AUT
Azerbaijan	AZE
Burundi	BDI
Belgium	BEL
Benin	BEN
Burkina Faso	BFA
Bangladesh	BGD
Bulgaria	BGR
Bahrain	BHR
Bahamas	BHS
Bosnia and Herzegovina	BIH
Belarus	BLR
Belize	BLZ
Bermuda	BMU
Bolivia	BOL
Brazil	BRA
Barbados	BRB
Brunei	BRN
Bhutan	BTN
Botswana	BWA
Central African Republic	CAF
Canada	CAN
Cocos (Keeling) Islands	CCK
Switzerland	CHE
Chile	CHL
China	CHN
Côte d'Ivoire	CIV
Cameroon	CMR
Congo, The Democratic Republic of the	COD
Congo	COG
Cook Islands	COK
Colombia	COL
Comoros	COM
Cape Verde	CPV
Costa Rica	CRI
Cuba	CUB
Christmas Island	CKR
Cayman Islands	CYM
Cyprus	CYP
Czech Republic	CZE
Germany	DEU
Djibouti	DJI
Dominica	DMA
Denmark	DNK
Dominican Republic	DOM
Algeria	DZA
Ecuador	ECU
Egypt	EGY
Eritrea	ERI
Western Sahara	ESH
Spain	ESP
Estonia	EST
Ethiopia	ETH
Finland	FIN
Fiji Islands	FJI
Falkland Islands	FLK

France	FRA
Faroe Islands	FRO
Micronesia, Federated States of	FSM
Gabon	GAB
United Kingdom	GBR
Georgia	GEO
Ghana	GHA
Gibraltar	GIB
Guinea	GIN
Guadeloupe	GLP
Gambia	GMB
Guinea-Bissau	GNB
Equatorial Guinea	GNQ
Greece	GRC
Grenada	GRD
Greenland	GRL
Guatemala	GTM
French Guiana	GUF
Guam	GUM
Guyana	GUY
Hong Kong	HKG
Honduras	HND
Croatia	HRV
Haiti	HTI
Hungary	HUN
Indonesia	IDN
India	IND
Ireland	IRL
Iran	IRN
Iraq	IRQ
Iceland	ISL
Israel	ISR
Italy	ITA
Jamaica	JAM
Jordan	JOR
Japan	JPN
Kazakhstan	KAZ
Kenya	KEN
Kyrgyzstan	KGZ
Cambodia	KHM
Kiribati	KIR
Saint Kitts and Nevis	KNA
South Korea	KOR
Kuwait	KWT
Laos	LAO
Lebanon	LBN
Liberia	LBR
Libyan Arab Jamahiriya	LBY
Saint Lucia	LCA
Liechtenstein	LIE
Sri Lanka	LKA
Lesotho	LSO
Lithuania	LTU
Luxembourg	LUX
Latvia	LVA
Macao	MAC
Morocco	MAR
Monaco	MCO
Moldova	MDA
Madagascar	MDG
Maldives	MDV
Mexico	MEX
Marshall Islands	MHL
Macedonia	MKD
Mali	MLI
Malta	MLT
Myanmar	MMR
Mongolia	MNG
Northern Mariana Islands	MNP
Mozambique	MOZ
Mauritania	MRT
Montserrat	MSR

Montserrat	MSR
Martinique	MTQ
Mauritius	MUS
Malawi	MWI
Malaysia	MYA
Mayotte	MYT
Namibia	NAM
New Caledonia	NCL
Niger	NER
Norfolk Island	NFK
Nigeria	NGA
Nicaragua	NIC
Niue	NIU
Netherlands	NLD
Norway	NOR
Nepal	NPL
Nauru	NRU
New Zealand	NZL
Oman	OMN
Pakistan	PAK
Panama	PAN
Pitcairn	PCN
Peru	PER
Philippines	PHL
Palau	PLW
Papua New Guinea	PNG
Poland	POL
Puerto Rico	PRI
North Korea	PRK
Portugal	PRT
Paraguay	PRY
Palestine	PSE
French Polynesia	PYF
Qatar	QAT
Réunion	REU
Romania	ROM
Russian Federation	RUS
Rwanda	RWA
Saudi Arabia	SAU
Sudan	SDN
Senegal	SEN
Singapore	SGP
Saint Helena	SHN
Svalbard and Jan Mayen	SJM
Solomon Islands	SLE
Sierra Leone	SLE
El Salvador	SLV
San Marino	SMR
Somalia	SOM
Saint Pierre and Miquelon	SPM
Sao Tome and Principe	STP
Suriname	SUR
Slovakia	SVK
Slovenia	SVN
Sweden	SWE
Swaziland	SWZ
Seychelles	SYC
Syria	SYR
Turks and Caicos Islands	TCA
Chad	TCD
Togo	TGO
Thailand	THA
Tajikistan	TJK
Tokelau	TKL
Turkmenistan	TKM
East Timor	TMP
Tonga	TON
Trinidad and Tobago	TTO
Tunisia	TUN
Turkey	TUR
Tuvalu	TUV
Taiwan	TWN

Taiwan	TWN
Tanzania	TZA
Uganda	UGA
Ukraine	UKR
Uruguay	URY
United States	USA
Uzbekistan	UZB
Holy See (Vatican City State)	VAT
Saint Vincent and the Grenadines	VCT
Venezuela	VEN
Virgin Islands, British	VGB
Virgin Islands, U.S.	VIR
Vietnam	VNM
Vanuatu	VUT
Wallis and Futuna	WLF
Samoa	WSM
Yemen	YEM
Yugoslavia	YUG
South Africa	ZAF
Zambia	ZMB
Zimbabwe	ZWE

232 rows in set (0.00 sec)

## Question 5)

```
C:\Program Files\MySQL\MySQL Server 8.0\bin>mysqldump -u root -p world > F:/HW2/HW2/world-export.sql
Enter password: *****
```