

В базе данных 4 таблицы

```
mysql> SHOW TABLES;  
+-----+  
| Tables_in_test |  
+-----+  
| city            |  
| country         |  
| festival        |  
| festivalorganizer |  
+-----+  
4 rows in set (0.00 sec)
```

ЗАДАНИЕ 1

Создание таблицы 'City'

```
CREATE TABLE City
```

```
(
```

```
    Name VARCHAR(40),
```

```
    Population INT(15),
```

```
    Area INT(15),
```

```
    Country VARCHAR(40)
```

```
);
```

Создание таблицы 'Country'

```
CREATE TABLE Country
```

```
(
```

```
    Name VARCHAR(40),
```

```
    Population INT(15),
```

```
    Area INT(15),
```

```
    Capital VARCHAR(40)
```

```
);
```

PRIMARY KEY и FOREIGN KEY

```
ALTER TABLE City ADD PRIMARY KEY (Name);
```

```
ALTER TABLE Country ADD FOREIGN KEY (Capital) REFERENCES City  
(Name);
```

Заполнение таблиц

```
INSERT INTO City VALUES ('New-York', 8405837, 789, 'USA');
INSERT INTO City VALUES ('Moscow', 12330126, 2562, 'Russia');
INSERT INTO City VALUES ('St. Petersburg', 5225690, 1439, 'Russia');
INSERT INTO City VALUES ('Tokyo', 13370198, 2189, 'Japan');
INSERT INTO City VALUES ('Beijing', 21705000, 16801, 'China');
INSERT INTO City VALUES ('Washington', 601723, 177, 'USA');
INSERT INTO City VALUES ('Paris', 2196936, 105, 'France');
INSERT INTO City VALUES ('Rome', 2870493, 1287, 'Italy');
INSERT INTO City VALUES ('Madrid', 3041579, 607, 'Spain');
INSERT INTO City VALUES ('Milan', 1342385, 182, 'Italy');
INSERT INTO City VALUES ('Merida', 777615, 883, 'Mexico');
INSERT INTO City VALUES ('Helsinki', 625268, 1550, 'Finland');
INSERT INTO City VALUES ('Porto', 221800, 41, 'Portugal');
INSERT INTO City VALUES ('Lisbon', 547733, 100, 'Portugal');
INSERT INTO City VALUES ('Mexico', 8800000, 149, 'Mexico');
INSERT INTO City VALUES ('Guangzhou', 10000000, 7434, 'China');
```

```
INSERT INTO Country VALUES ('Russia', 146544710, 17125191, 'Moscow');
INSERT INTO Country VALUES ('USA', 325607197, 9519431, 'Washington');
INSERT INTO Country VALUES ('Italy', 60795612, 301340, 'Rome');
INSERT INTO Country VALUES ('Spain', 47370542, 504782, 'Madrid');
INSERT INTO Country VALUES ('France', 66200000, 674685, 'Paris');
INSERT INTO Country VALUES ('China', 1373541278, 9596960, 'Beijing');
INSERT INTO Country VALUES ('Portugal', 10799270, 92151, 'Lisbon');
INSERT INTO Country VALUES ('Finland', 5492000, 338431, 'Helsinki');
INSERT INTO Country VALUES ('Japan', 126958000, 377944, 'Tokyo');
INSERT INTO Country VALUES ('Mexico', 121005815, 1972550, 'Mexico');
```

Таблица 'City'

```
mysql> SELECT * FROM City;
```

Name	Population	Area	Country
Beijing	21705000	16801	China
Guangzhou	100000000	7434	China
Helsinki	625268	1550	Finland
Lisbon	547733	100	Portugal
Madrid	3041579	607	Spain
Merida	777615	883	Mexico
Mexico	8800000	149	Mexico
Milan	1342385	182	Italy
Moscow	12330126	2562	Russia
New-York	8405837	789	USA
Paris	2196936	105	France
Porto	221800	41	Portugal
Rome	2870493	1287	Italy
St. Petersburg	5225690	1439	Russia
Tokyo	13370198	2189	Japan
Washington	601723	177	USA

```
16 rows in set (0.00 sec)
```

Таблица 'Country'

```
mysql> SELECT * FROM Country;
```

Name	Population	Area	Capital
China	1373541278	9596960	Beijing
Finland	5492000	338431	Helsinki
France	66200000	674685	Paris
Italy	60795612	301340	Rome
Japan	126958000	377944	Tokyo
Mexico	121005815	1972550	Mexico
Portugal	10799270	92151	Lisbon
Russia	146544710	17125191	Moscow
Spain	47370542	504782	Madrid
USA	325607197	9519431	Washington

```
10 rows in set (0.00 sec)
```

1)

```
mysql> SELECT Name, Population
-> FROM City
-> WHERE Country = 'Russia';
```

Name	Population
Moscow	12330126
St. Petersburg	5225690

```
2 rows in set (0.00 sec)
```

2)

```
mysql> SELECT Country, SUM(Area) AS Total  
-> FROM City  
-> GROUP BY Country;
```

Country	Total
China	24235
Finland	1550
France	105
Italy	1469
Japan	2189
Mexico	1032
Portugal	141
Russia	4001
Spain	607
USA	966

```
10 rows in set (0.00 sec)
```

ЗАДАНИЕ 2

Создание таблицы 'FestivalOrganizer'

```
CREATE TABLE FestivalOrganizer
```

```
(
```

```
    Name VARCHAR(40),
```

```
    AccreditationCountry INT(15),
```

```
);
```

Создание таблицы 'Festival'

```
CREATE TABLE Festival
```

```
(
```

```
    Name VARCHAR(40),
```

```
    City VARCHAR(40),
```

```
    Places INT(15),
```

```
    Country VARCHAR(40),
```

```
    Organizer VARCHAR(40)
```

```
);
```

PRIMARY KEY и FOREIGN KEY

```
ALTER TABLE FestivalOrganizer ADD PRIMARY KEY (Name, AccreditationCountry);
```

```
ALTER TABLE Country ADD PRIMARY KEY (Name);
```

```
ALTER TABLE Festival ADD FOREIGN KEY (City) REFERENCES City (Name);
```

```
ALTER TABLE FestivalCountry ADD FOREIGN KEY (Country) REFERENCES Country (Name);
```

Заполнение таблиц

```
INSERT INTO FestivalOrganizer VALUES ('Organizer_1', 'China');
```

```
INSERT INTO FestivalOrganizer VALUES ('Organizer_2', 'Mexico');
```

```
INSERT INTO FestivalOrganizer VALUES ('Organizer_3', 'Russia');
```

```
INSERT INTO FestivalOrganizer VALUES ('Organizer_4', 'China');
```

```
INSERT INTO FestivalOrganizer VALUES ('Organizer_5', 'France');
```

```
INSERT INTO FestivalOrganizer VALUES ('Organizer_6', 'USA');
```

```
INSERT INTO FestivalOrganizer VALUES ('Organizer_7', 'USA');
```

```
INSERT INTO FestivalOrganizer VALUES ('Organizer_8', 'Spain');
```

```
INSERT INTO FestivalOrganizer VALUES ('Organizer_9', 'Italy');
```

```
INSERT INTO FestivalOrganizer VALUES ('Organizer_10', 'Finland');
```

```
INSERT INTO FestivalOrganizer VALUES ('Organizer_11', 'Russia');
```

```
INSERT INTO FestivalOrganizer VALUES ('Organizer_12', 'France');
```

```
INSERT INTO Festival VALUES ('Dragon Boat Festival', 'Beijing', 150000000, 'China', 'Organizer_1');
```

```
INSERT INTO Festival VALUES ('Moscow Flower Show', 'Moscow', 15000, 'Russia', 'Organizer_11');
```

```
INSERT INTO Festival VALUES ('Sunshine Music Festival', 'St. Peterburg', 12000, 'Russia', 'Organizer_3');
```

```
INSERT INTO Festival VALUES ('Pitchfork Music Festival', 'Paris', 102100, 'France', 'Organizer_5');
```

```
INSERT INTO Festival VALUES ('Rome Film Fest', 'Rome', 650000, 'Italy', 'Organizer_9');
```

```
INSERT INTO Festival VALUES ('Mad Cool Festival', 'Madrid', 102647, 'Spain', 'Organizer_8');
```

```
INSERT INTO Festival VALUES ('Summer Music Festival', 'New-York', 80000, 'USA', 'Organizer_6');
```

```
INSERT INTO Festival VALUES ('Wedgwood Art Festival', 'Washington', 1500, 'USA', 'Organizer_7');
```

```
INSERT INTO Festival VALUES ('Day of the Dead', 'Mexico', 10240, 'Mexico', 'Organizer_2');
```

```
INSERT INTO Festival VALUES ('Beijing Mid-Autumn Festival', 'Beijing', 250000, 'China', 'Organizer_4');
```

```
INSERT INTO Festival VALUES ('Moscow Salsa & Kizomba Festival', 'Moscow', 4000, 'Russia', 'Organizer_11');
```

```
INSERT INTO Festival VALUES ('Moscow Music Peace Festival', 'Moscow', 10500, 'Russia', 'Organizer_3');
```

```
INSERT INTO Festival VALUES ('Longqing Gorge Ice and Snow Festival', 'Beijing', 20550, 'China', 'Organizer_4');
```

Таблица 'FestivalOrganizer'

```
mysql> SELECT * FROM FestivalOrganizer;
```

Name	AccreditationCountry
Organizer_1	China
Organizer_10	Finland
Organizer_11	Russia
Organizer_12	France
Organizer_2	Mexico
Organizer_3	Russia
Organizer_4	China
Organizer_5	France
Organizer_6	USA
Organizer_7	USA
Organizer_8	Spain
Organizer_9	Italy

```
12 rows in set (0.00 sec)
```

Таблица 'Festival'

```
mysql> SELECT * FROM Festival;
```

Name Organizer	City	Places	Country
Dragon Boat Festival Organizer_1	Beijing	1500000000	China
Moscow Flower Show Organizer_11	Moscow	15000	Russia
Sunshine Music Festival Organizer_3	St. Petersburg	12000	Russia
Pitchfork Music Festival Organizer_5	Paris	102100	France
Rome Film Fest Organizer_9	Rome	650000	Italy
Mad Cool Festival Organizer_8	Madrid	102647	Spain
Summer Music Festival Organizer_6	New-York	80000	USA
Wedgwood Art Festival Organizer_7	Washington	1500	USA
Day of the Dead Organizer_2	Mexico	10240	Mexico
Beijing Mid-Autumn Festival Organizer_4	Beijing	250000	China
Moscow Salsa & Kizomba Festival Organizer_11	Moscow	4000	Russia
Moscow Music Peace Festival Organizer_3	Moscow	10500	Russia
Longqing Gorge Ice and Snow Festival Organizer_4	Beijing	20550	China

13 rows in set (0.00 sec)

1)

```
mysql> SELECT Festival.Name
-> FROM Festival JOIN Country ON Festival.Country = Country.Name
-> WHERE Country.Population = (SELECT MAX(Country.Population) FROM Country);
```

Name
Dragon Boat Festival
Beijing Mid-Autumn Festival
Longqing Gorge Ice and Snow Festival

3 rows in set (0.00 sec)

2)

```
mysql> SELECT Festival.Name
-> FROM Festival JOIN City ON City.Name = Festival.City
-> WHERE City.Population > 10000000;
```

Name
Dragon Boat Festival
Moscow Flower Show
Beijing Mid-Autumn Festival
Moscow Salsa & Kizomba Festival
Moscow Music Peace Festival
Longqing Gorge Ice and Snow Festival

6 rows in set (0.00 sec)

3)

```
mysql> CREATE VIEW tableCountry AS
-> SELECT City.Country
-> FROM Festival JOIN City ON Festival.City = City.Name
-> WHERE (City.Name IN
-> (SELECT City.Name
-> FROM City JOIN Country ON City.Country = Country.Name
-> WHERE City.Population IN
-> (SELECT Max(City.Population)
-> FROM City
-> GROUP BY Country))) GROUP BY City.Name HAVING COUNT(*) = 3 ;
Query OK, 0 rows affected (0.04 sec)

mysql>
mysql> SELECT tableCountry.Country, AVG(City.Population)
-> FROM City JOIN tableCountry ON City.Country = tableCountry.Country
-> GROUP BY Country;
+-----+-----+
| Country | AVG(City.Population) |
+-----+-----+
| China   | 15852500.0000        |
| Russia  | 8777908.0000         |
+-----+-----+
2 rows in set (0.04 sec)

mysql> SELECT*FROM tableCountry;
+-----+
| Country |
+-----+
| China   |
| Russia  |
+-----+
2 rows in set (0.00 sec)

mysql> DROP VIEW tableCountry;
Query OK, 0 rows affected (0.00 sec)
```