

## Практическая часть занятия:

### 1. Создание таблиц

```
CREATE TABLE city (  
  Name Varchar(40),  
  Population INT,  
  Area INT,  
  Country Varchar(40),  
  PRIMARY KEY(Name));
```

```
CREATE TABLE country (  
  Name Varchar(40),  
  Population INT,  
  Area INT,  
  capital Varchar(40),  
  PRIMARY KEY(Name));
```

```
INSERT INTO `country`(`Name`, `Population`, `Area`, `Capital`) VALUES  
('Austria', 8223062, 83858, 'Vienna');  
INSERT INTO `country`(`Name`, `Population`, `Area`, `Capital`) VALUES  
('Argentina', 43024374, 2766890, 'Buenos Aires');  
INSERT INTO `country`(`Name`, `Population`, `Area`, `Capital`) VALUES  
('Brazil', 202656788, 8511965, 'Brazil');  
INSERT INTO `country`(`Name`, `Population`, `Area`, `Capital`) VALUES  
('Great Britain', 63742977, 244820, 'London ');  
INSERT INTO `country`(`Name`, `Population`, `Area`, `Capital`) VALUES  
('Venezuela', 28868486, 912050, 'Caracas');  
INSERT INTO `country`(`Name`, `Population`, `Area`, `Capital`) VALUES  
('Greece', 10775557, 131940, 'Athens');  
INSERT INTO `country`(`Name`, `Population`, `Area`, `Capital`) VALUES  
('Italy', 61680122, 301340, 'Rome');  
INSERT INTO `country`(`Name`, `Population`, `Area`, `Capital`) VALUES  
('Peru', 30147935, 1285220, 'Lima');  
INSERT INTO `country`(`Name`, `Population`, `Area`, `Capital`) VALUES  
('France', 66259012, 547030, 'Paris');  
INSERT INTO `country`(`Name`, `Population`, `Area`, `Capital`) VALUES  
('Russia', 146270033, 17102345, 'Moscow');
```

Name ▲	Population	Area	Capital
Argentina	43024374	2766890	Buenos Aires
Austria	8223062	83858	Vienna
Brazil	202656788	8511965	Brazil
France	66259012	547030	Paris
Great Britain	63742977	244820	London
Greece	10775557	131940	Athens
Italy	61680122	301340	Rome
Peru	30147935	1285220	Lima
Russia	146270033	17102345	Moscow
Venezuela	28868486	912050	Caracas

INSERT INTO `city`(`Name`, `Population`, `Area`, `Country`) VALUES ('Vienna', 1664146, 414, 'Austria');

INSERT INTO `city`(`Name`, `Population`, `Area`, `Country`) VALUES ('Buenos Aires', 2891082, 202, 'Argentina');

INSERT INTO `city`(`Name`, `Population`, `Area`, `Country`) VALUES ('Rome', 2711491, 1285, 'Italy');

INSERT INTO `city`(`Name`, `Population`, `Area`, `Country`) VALUES ('Moscow', 11979529, 2561, 'Russia');

INSERT INTO `city`(`Name`, `Population`, `Area`, `Country`) VALUES ('Athens', 720 979, 412, 'Greece');

INSERT INTO `city`(`Name`, `Population`, `Area`, `Country`) VALUES ('London', 8308369, 1706, 'Great Britain')

INSERT INTO `city`(`Name`, `Population`, `Area`, `Country`) VALUES ('Lima', 8486866, 804, 'Peru')

INSERT INTO `city`(`Name`, `Population`, `Area`, `Country`) VALUES ('Paris', 2257981, 105, 'France')

INSERT INTO `city`(`Name`, `Population`, `Area`, `Country`) VALUES ('Caracas', 3051000, 1930, 'Venezuela')

INSERT INTO `city`(`Name`, `Population`, `Area`, `Country`) VALUES ('Brazil', 2609997, 5801, 'Brazil')

Name ▲	Population	Area	Country
Athens	720979	412	Greece
Brazil	2609997	5801	Brazil
Buenos Aires	2891082	202	Argentina
Caracas	3051000	1930	Venezuela
Lima	8486866	804	Peru
London	8308369	1706	Great Britain
Moscow	11979529	2561	Russia
Paris	2257981	105	France
Rome	2711491	1285	Italy
Vienna	1664146	414	Austria

1.1. Вывести информацию по стране, передаваемой в качестве параметра в where, включающую в себя все города для этой страны с их населением.

```
SELECT Name, Population, Country
FROM city
WHERE Country = 'Italy'
```

Name	Population	Country
Rome	2711491	Italy

1.2. Вывести сумму площади по городам в рамках каждой страны.

```
SELECT Country, SUM( city.AREA )
FROM city
JOIN country ON city.Name = country.Capital
GROUP BY Country
```

Country	SUM( city.AREA )
Argentina	202
Austria	414
Brazil	5801
France	105
Great Britain	1706
Greece	412
Italy	1285
Peru	804
Russia	2561
Venezuela	1930

1.3. Сделать Foreign key Country.Capital -> City.Name

```
ALTER TABLE country ADD FOREIGN KEY (Capital) REFERENCES  
city(Name);
```

## **Домашнее задание**

### **2. Создание таблиц**

```
CREATE TABLE festival (  
Name Varchar(40),  
City Varchar(40),  
Places INT,  
Country Varchar(40),  
Organizer Varchar(40),  
PRIMARY KEY(Name));
```

```
CREATE TABLE festivalorganizer (  
Name Varchar(40),  
AccreditationCountry Varchar(40),  
PRIMARY KEY(Name, AccreditationCountry));
```

```
INSERT INTO festival VALUES ('Athens Digital Arts', 'Athens', 1, 'Greece',  
'Digital Arts Corporation');  
INSERT INTO festival VALUES ('Carnaval do Brasi', 'Brazil', 2, 'Brazil', 'Brazil  
administration');  
INSERT INTO festival VALUES ('Stounfest', 'Canberra', 3, 'Australia', 'University  
of Canberra');  
INSERT INTO festival VALUES ('Ultra Music Festival Show', 'Buenos Aires ', 1,  
' Argentina ', 'Discovery');  
INSERT INTO festival VALUES ('Reading Festival', 'Paris', 4, 'France', 'Reading  
org');  
INSERT INTO festival VALUES ('Tea Festival', 'London', 1, 'Great Britain',  
'London administration');  
INSERT INTO festival VALUES ('Festival delle Nazioni', 'Rome', 1, 'Italy',  
'Olala');  
INSERT INTO festival VALUES ('Sun festival', 'Lima', 3, 'Peru', 'Sun ORG');  
INSERT INTO festival VALUES ('Carnival', 'Caracas', 2, 'Venezuela', 'Lolo');  
INSERT INTO festival VALUES ('Festival of colors', 'Moscow', 3, 'Russia',  
'ColorFest');
```

INSERT INTO festival VALUES ('Festival 1', 'Buenos Aires', 3, 'Argentina', 'Organizer 1');

INSERT INTO festival VALUES ('Festival 2', 'Lima', 3, 'Peru', 'Organizer 2');

Name	City	Places	Country	Organizer
Athens Digital Arts	Athens	1	Greece	Digital Arts Corporation
Carnaval do Brasi	Brazil	2	Brazil	Brazil administration
Carnival	Caracas	2	Venezuela	Lolo
Festival 1	Buenos Aires	3	Argentina	Organizer 1
Festival 2	Lima	3	Peru	Organizer 2
Festival delle Nazioni	Rome	1	Italy	Olala
Festival of colors	Moscow	3	Russia	ColorFest
Reading Festival	Paris	4	France	Reading org
Stounfest	Vienna	3	Austria	University of Canberra
Sun festival	Lima	3	Peru	Sun ORG
Tea Festival	London	1	Great Britain	London administration
Ultra Music Festival Show	Buenos Aires	1	Argentina	Discovery

INSERT INTO festivalorganizer VALUES ('Digital Arts Corporation','Brazil');

INSERT INTO festivalorganizer VALUES ('Brazil administration','Brazil');

INSERT INTO festivalorganizer VALUES ('University of Canberra','Australia');

INSERT INTO festivalorganizer VALUES ('Discovery', 'Greece');

INSERT INTO festivalorganizer VALUES ('Reading org','France');

INSERT INTO festivalorganizer VALUES ('London administration', 'London');

INSERT INTO festivalorganizer VALUES ('Olala', 'Italy');

INSERT INTO festivalorganizer VALUES ('Sun ORG','Italy');

INSERT INTO festivalorganizer VALUES ('Lolo','Venezuela');

INSERT INTO festivalorganizer VALUES ('ColorFest','Russia');

INSERT INTO festivalorganizer VALUES ('Organizer 1','Argentina');

INSERT INTO festivalorganizer VALUES ('Organizer 2','Peru');

Name	AccreditationCountry ▲
Organizer 1	Argentina
University of Canberra	Austria
Brazil administration	Brazil
Digital Arts Corporation	Brazil
Reading org	France
London administration	Great Britain
Discovery	Greece
Olala	Italy
Sun ORG	Italy
Organizer 2	Peru
ColorFest	Russia
Lolo	Venezuela

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

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

```
ALTER TABLE festivalorganizer ADD FOREIGN KEY (AccreditationCountry)
REFERENCES country(Name);
```

```
ALTER TABLE festival ADD FOREIGN KEY (Organizer) REFERENCES
festivalorganizer (Name)
```

2.1. Вывести все фестивали, которые проводятся в стране с наибольшим населением.

```
SELECT festival.Name
FROM festival
JOIN country ON festival.Country = country.Name
WHERE country.Population = (
SELECT MAX( Population )
FROM country )
```

Name
Carnaval do Brasi

2.2. Вывести все фестивали, которые проводятся в городах с населением большим, чем N (N выбрать самостоятельно, в зависимости от ваших данных).

```
SELECT festival.Name
```

```

FROM festival
JOIN city ON festival.City = city.Name
WHERE city.Population >4000000

```

Name
Festival 2
Sun festival
Tea Festival
Festival of colors

2.3. Рассчитать среднее население городов в странах, в городах которых проходят 3 крупнейших фестиваля. Крупнейшим считается фестиваль в городе с населением большим, чем во всех остальных городах.

```

CREATE VIEW S1 AS
SELECT festival.Country
FROM festival JOIN city
ON festival.City=city.Name
ORDER BY city.Population DESC LIMIT 3;

```

```

SELECT city.Country, AVG( city.Population )
FROM city JOIN S1
ON city.Country = S1.Country
GROUP BY city.Country

```

Country	AVG(city.Population)
Peru	8486866.0000
Russia	11979529.0000