HW5 Homework

1.在新数据库中新建一张 user 表,插入几条数据,属性包含:唯一标识(id),姓名(name)性别(sex).年龄(age).联系方式(phone),

```
mysql> CREATE DATABASE ItDSaE_hw5;
Query OK, 1 row affected (0.01 sec)
```

```
mysql> USE ItDSaE_hw5;
Database changed
mysql> CREATE TABLE user(
    ->  id INT AUTO_INCREMENT PRIMARY KEY,
    ->  name VARCHAR(50) NOT NULL,
    ->  sex VARCHAR(20) NOT NULL,
    ->  age INT NOT NULL,
    ->  phone VARCHAR(50) NOT NULL
    -> );
Query OK, 0 rows affected (0.03 sec)
```

```
mysql> USE ItDSaE_hw5;
Database changed
mysql> INSERT INTO user
    -> VALUES
    -> (NULL,'John Doe', 'Male', 25, '123-456-7890'),
    -> (NULL,'Jane Smith', 'Female', 31, '987-654-3210'),
    -> (NULL,'Bob Johnson', 'Male', 22, '555-123-4567');
Query OK, 3 rows affected (0.00 sec)
Records: 3  Duplicates: 0  Warnings: 0
```

2.写出 SQL 语句,查询 user 表中所有年龄在 20-30 范围内的用户

```
mysql> SELECT * FROM user WHERE age > 20 AND age < 30;
+----+-------------+------+-----+--------------+
| id | name        | sex  | age | phone        |
+----+-------------+------+-----+--------------+
|  1 | John Doe    | Male |  25 | 123-456-7890 |
|  3 | Bob Johnson | Male |  22 | 555-123-4567 |
+----+-------------+------+-----+--------------+
2 rows in set (0.00 sec)
```

3.写出 SQL 语句，向 user 表中添加自己的个人信息，并添加几条和你姓名同姓的虚拟信息。

```
mysql> INSERT INTO user
    -> VALUES
    -> (NULL,'邱徐岚','Female',20,'181-5738-0516'),
    -> (NULL,'邱岚岚','Female',21,'181-5738-0616'),
    -> (NULL,'邱徐徐','Female',22,'181-5738-0716'),
    -> (NULL,'邱邱岚','Female',23,'181-5738-0816');
Query OK, 4 rows affected (0.01 sec)
Records: 4  Duplicates: 0  Warnings: 0
```

4.写出 SQL 语句,查询 user 表中年龄在 20-30 范围内,名字包含“你的姓氏”的用户,并按照年龄从大到小排序输出

```
mysql> SELECT * FROM user WHERE age > 20 AND age < 30 AND name LIKE '%邱%' ORDER BY age
 DESC;
+----+--------+--------+-----+---------------+
| id | name   | sex    | age | phone         |
+----+--------+--------+-----+---------------+
|  7 | 邱邱岚 | Female |  23 | 181-5738-0816 |
|  6 | 邱徐徐 | Female |  22 | 181-5738-0716 |
|  5 | 邱岚岚 | Female |  21 | 181-5738-0616 |
+----+--------+--------+-----+---------------+
3 rows in set (0.00 sec)
```

5.写出 SQL 语句,计算 user 表中所有用户的平均年龄

```
mysql> SELECT AVG(age) AS averageage FROM user;
+-------------+
| averageage  |
+-------------+
|     23.4286 |
+-------------+
1 row in set (0.00 sec)
```

6.新建两张表 team 表(id,teamName)和 score 表(id,teamid,userid,score)。其中 score 表中的 teamid 为指向 team 表 id 的外键，userid 为指向 user 表 id 的外键

```
mysql> CREATE TABLE team (
    ->     id INT AUTO_INCREMENT PRIMARY KEY,
    ->     teamName VARCHAR(100) NOT NULL
    -> );
Query OK, 0 rows affected (0.05 sec)
```

```
mysql> CREATE TABLE score (
    ->     id INT AUTO_INCREMENT PRIMARY KEY,
    ->     teamid INT,
    ->     userid INT,
    ->     score INT,
    ->     FOREIGN KEY (teamid) REFERENCES team(id),
    ->     FOREIGN KEY (userid) REFERENCES user(id)
    -> );
Query OK, 0 rows affected (0.06 sec)
```

7.在 team 表中和 score 表中插入合适的记录，写出 SQL 语句,查询 teamName 为 “ECNU”的队伍中，年龄小于 20 的用户们，结果不得为空

```
mysql> INSERT INTO user
    -> VALUES
    -> (NULL,'邱邱邱','Male',19,'181-5738-0916'),
    -> (NULL,'邱岚徐','Male',18,'181-5738-0416');
Query OK, 2 rows affected (0.01 sec)
Records: 2  Duplicates: 0  Warnings: 0
```

```
mysql> INSERT INTO team
    -> VALUES
    -> (NULL,'ECNU'),
    -> (NULL,'FDU'),
    -> (NULL,'SJTU'),
    -> (NULL,'TCU');
Query OK, 4 rows affected (0.01 sec)
Records: 4  Duplicates: 0  Warnings: 0
```

```
mysql> INSERT INTO score VALUES (NULL,2,1,90);
Query OK, 1 row affected (0.01 sec)
```

```
mysql> INSERT INTO score
    -> VALUES
    -> (NULL,2,2,80),
    -> (NULL,2,3,70),
    -> (NULL,3,4,90),
    -> (NULL,3,5,80),
    -> (NULL,4,6,90),
    -> (NULL,4,7,70),
    -> (NULL,1,8,80),
    -> (NULL,1,9,80);
Query OK, 8 rows affected (0.01 sec)
Records: 8  Duplicates: 0  Warnings: 0
```

```
mysql> SELECT user.*
    -> FROM user
    -> INNER JOIN score ON user.id = score.userid
    -> INNER JOIN team ON score.teamid = team.id
    -> WHERE team.teamName = 'ECNU' AND user.age < 20;
+----+--------+------+-----+---------------+
| id | name   | sex  | age | phone         |
+----+--------+------+-----+---------------+
|  8 | 邱邱邱 | Male |  19 | 181-5738-0916 |
|  9 | 邱岚徐 | Male |  18 | 181-5738-0416 |
+----+--------+------+-----+---------------+
2 rows in set (0.00 sec)
```

8.写出 SQL 语句,计算 teamName 为“ECNU”的总分(假设 score 存在 null 值,nul 值默认为 0 加入计算)

```
mysql> INSERT INTO user
    -> VALUES
    -> (NULL,'徐徐徐','Female',20,'181-5738-0316');
Query OK, 1 row affected (0.01 sec)
```

```
mysql> INSERT INTO score VALUES (NULL,1,10,NULL);
Query OK, 1 row affected (0.01 sec)
```

```
mysql> SELECT SUM(IFNULL(score.score,0)) AS total_score
    -> FROM team
    -> JOIN score ON team.id = score.teamid
    -> WHERE team.teamName = 'ECNU'
    -> ;
+-------------+
| total_score |
+-------------+
|         160 |
+-------------+
1 row in set (0.00 sec)
```

9.写出 SQL 语句，删除 user 表中个人信息的记录

```
mysql> DELETE FROM score WHERE userid = 4;
Query OK, 1 row affected (0.02 sec)
```

```
mysql> DELETE FROM user WHERE id = 4;
Query OK, 1 row affected (0.02 sec)
```