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)，数据如下：

('John Doe', 'Male', 25, '123-456-7890')

('Jane Smith', 'Female', 31, '987-654-3210')

('Bob Johnson', 'Male', 22, '555-123-4567')

```
mysql> CREATE DATABASE mydatabase;
Query OK, 1 row affected (0.00 sec)

mysql> USE mydatabase;
Database changed
mysql> CREATE TABLE user (
    ->     id INT AUTO_INCREMENT PRIMARY KEY,
    ->     name VARCHAR(100),
    ->     sex VARCHAR(10),
    ->     age INT,
    ->     phone VARCHAR(20)
    -> );
Query OK, 0 rows affected (0.01 sec)

mysql> INSERT INTO user (name, sex, age, phone) VALUES
    -> ('John Doe', 'Male', 25, '123-456-7890'),
    -> ('Jane Smith', 'Female', 31, '987-654-3210'),
    -> ('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 BETWEEN 20 AND 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 (name, sex, age, phone) VALUES
    -> ('唐屹', 'Male', 19, '114-514-1919810'),
    -> ('唐徐坤', 'Male', 28, '444-555-6666'),
    -> ('唐嘉琪', 'Female', 27, '777-888-9999');
Query OK, 3 rows affected (0.00 sec)
Records: 3  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 BETWEEN 20 AND 30 AND name LIKE '唐%' ORDER BY age DESC;
+----+--------+--------+------+--------------+
| id | name   | sex    | age  | phone        |
+----+--------+--------+------+--------------+
|  5 | 唐徐坤 | Male   |   28 | 444-555-6666 |
|  6 | 唐嘉琪 | Female |   27 | 777-888-9999 |
+----+--------+--------+------+--------------+
2 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 average_age FROM user;
+-------------+
| average_age |
+-------------+
|     25.3333 |
+-------------+
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 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 (0.02 sec)

mysql> INSERT INTO team (teamName) VALUES ('ECNU');
Query OK, 1 row affected (0.00 sec)

mysql>
mysql> INSERT INTO user (name, sex, age, phone) VALUES
    -> ('李一', 'Male', 18, '111-111-1111'),
    -> ('李二', 'Female', 19, '222-222-2222');
Query OK, 2 rows affected (0.00 sec)
Records: 2  Duplicates: 0  Warnings: 0
```

```
mysql> INSERT INTO score (teamid, userid, score) VALUES
    -> (1, 4, 85),
    -> (1, 5, 90);
Query OK, 2 rows affected (0.00 sec)
Records: 2  Duplicates: 0  Warnings: 0
```

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> SELECT u.*
    -> FROM user u
    -> JOIN score s ON u.id = s.userid
    -> JOIN team t ON s.teamid = t.id
    -> WHERE t.teamName = 'ECNU' AND u.age < 20;
+----+------+------+------+-----------------+
| id | name | sex  | age  | phone           |
+----+------+------+------+-----------------+
|  4 | 唐屹 | Male |   19 | 114-514-1919810 |
+----+------+------+------+-----------------+
1 row in set (0.00 sec)
```

```
mysql> SELECT t.teamName, COALESCE(SUM(s.score), 0) AS total_score
    -> FROM team t
    -> LEFT JOIN score s ON t.id = s.teamid
    -> WHERE t.teamName = 'ECNU'
    -> GROUP BY t.teamName;
+----------+-------------+
| teamName | total_score |
+----------+-------------+
| ECNU     |         175 |
+----------+-------------+
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> UPDATE score SET userid = NULL WHERE userid = (SELECT id FROM user WHERE name = '唐屹');
Query OK, 1 row affected (0.00 sec)
Rows matched: 1  Changed: 1  Warnings: 0

mysql> DELETE FROM user WHERE name = '唐屹';
Query OK, 1 row affected (0.00 sec)
```