1.

```
CREATE DATABASE mydatabase;
USE mydatabase;
CREATE TABLE user (
    id INT AUTO_INCREMENT PRIMARY KEY,
    name VARCHAR(100) NOT NULL,
    sex VARCHAR(10) NOT NULL,
    age INT NOT NULL,
    phone VARCHAR(15) NOT NULL
);
```

```
 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');
```

```
mysql> SELECT * FROM user;
+----+-------------+--------+-----+--------------+
| id | name        | sex    | age | phone        |
+----+-------------+--------+-----+--------------+
|  1 | John Doe    | Male   |  25 | 123-456-7890 |
|  2 | Jane Smith  | Female |  31 | 987-654-3210 |
|  3 | Bob Johnson | Male   |  22 | 555-123-4567 |
+----+-------------+--------+-----+--------------+
3 rows in set (0.00 sec)
```

2.

```
SELECT * FROM user
WHERE age BETWEEN 20 AND 30;
```

```
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.

```
INSERT INTO user (name, sex, age, phone) VALUES
('Li Jiamin', 'Female', 19, '007-017-1983'),
('Li Xiaolong', 'Male', 24, '324-342-6323'),
('Li Mei', 'Female', 21, '111-111-1111'),
('Li Ming', 'Male', 29, '456-421-8442'),
```

('Li Xue', 'Female', 27, '656-345-7423');

```
mysql> SELECT * FROM user;
+----+-------------+--------+-----+--------------+
| id | name        | sex    | age | phone        |
+----+-------------+--------+-----+--------------+
|  1 | John Doe    | Male   |  25 | 123-456-7890 |
|  2 | Jane Smith  | Female |  31 | 987-654-3210 |
|  3 | Bob Johnson | Male   |  22 | 555-123-4567 |
|  4 | Li Jiamin   | Female |  19 | 007-017-1983 |
|  5 | Li Xiaolong | Male   |  24 | 324-342-6323 |
|  6 | Li Mei      | Female |  21 | 111-111-1111 |
|  7 | Li Ming     | Male   |  29 | 456-421-8442 |
|  8 | Li Xue      | Female |  27 | 656-345-7423 |
+----+-------------+--------+-----+--------------+
8 rows in set (0.00 sec)
```

4.

SELECT * FROM user

WHERE age BETWEEN 20 AND 30 AND name LIKE 'Li%'

ORDER BY age DESC;

```
mysql> SELECT * FROM user
    -> WHERE age BETWEEN 20 AND 30 AND name LIKE 'Li%'
    -> ORDER BY age DESC;
+----+-------------+--------+-----+--------------+
| id | name        | sex    | age | phone        |
+----+-------------+--------+-----+--------------+
|  7 | Li Ming     | Male   |  29 | 456-421-8442 |
|  8 | Li Xue      | Female |  27 | 656-345-7423 |
|  5 | Li Xiaolong | Male   |  24 | 324-342-6323 |
|  6 | Li Mei      | Female |  21 | 111-111-1111 |
+----+-------------+--------+-----+--------------+
4 rows in set (0.00 sec)
```

5.

SELECT AVG(age) AS average_age FROM user;

```
mysql> SELECT AVG(age) AS average_age FROM user;
+-------------+
| average_age |
+-------------+
|     24.7500 |
+-------------+
1 row in set (0.00 sec)
```

6.

CREATE TABLE team (

```
        id INT AUTO_INCREMENT PRIMARY KEY,
        teamName VARCHAR(255) NOT NULL
);

CREATE TABLE score (
        id INT AUTO_INCREMENT PRIMARY KEY,
        teamid INT,
        userid INT,
        score INT NOT NULL,
        FOREIGN KEY (teamid) REFERENCES team(id) ON DELETE CASCADE ON UPDATE CASCADE,
        FOREIGN KEY (userid) REFERENCES user(id) ON DELETE CASCADE ON UPDATE CASCADE
);
```

7.
```
INSERT INTO team (teamName) VALUES
  ('ECNU'),
('Fudan');

INSERT INTO score (teamid, userid, score) VALUES
(1, 1, 90),
(1, 2, 85),
(1, 3, 88),
(1, 4, 95),
(2, 5, 86),
(2, 6, 92),
(2, 7, 89),
(2, 8, 94);

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;
```

```
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 | Li Jiamin | Female |   19 | 007-017-1983 |
+----+-----------+--------+------+--------------+
1 row in set (0.01 sec)
```

8.

SELECT SUM(COALESCE(s.score, 0)) AS total_score FROM score s

JOIN team t ON s.teamid = t.id

WHERE t.teamName = 'ECNU';

```
mysql>  SELECT SUM(COALESCE(s.score, 0)) AS total_score FROM score s
    ->  JOIN team t ON s.teamid = t.id
    ->  WHERE t.teamName = 'ECNU';
+-------------+
| total_score |
+-------------+
|         358 |
+-------------+
1 row in set (0.00 sec)
```

9.

DELETE FROM user

WHERE name = 'Li Jiamin';

```
mysql> DELETE FROM user
    -> WHERE name = 'Li Jiamin';
Query OK, 1 row affected (0.01 sec)

mysql> SELECT * FROM user
    -> ;
+----+-------------+--------+-----+--------------+
| id | name        | sex    | age | phone        |
+----+-------------+--------+-----+--------------+
|  1 | John Doe    | Male   |  25 | 123-456-7890 |
|  2 | Jane Smith  | Female |  31 | 987-654-3210 |
|  3 | Bob Johnson | Male   |  22 | 555-123-4567 |
|  5 | Li Xiaolong | Male   |  24 | 324-342-6323 |
|  6 | Li Mei      | Female |  21 | 111-111-1111 |
|  7 | Li Ming     | Male   |  29 | 456-421-8442 |
|  8 | Li Xue      | Female |  27 | 656-345-7423 |
+----+-------------+--------+-----+--------------+
7 rows in set (0.00 sec)
```