

1.

```
mysql> USE my_database
Database changed
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.

```
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.

```
mysql> INSERT INTO user (id, name, sex, age, phone)
-> VALUES (4, 'Brunce Lee', 'male', 20, '888-888-8888')
-> ;
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
4	Brunce Lee	male	20	888-888-8888

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

```
mysql> INSERT INTO user (id, name, sex, age, phone)
-> VALUES (5, 'David Lee', 'Male', 34, '732-372-8377'),
-> (6, 'Stephen Lee', 'Male', 55, '743-948-2323'),
-> (7, 'Jenny Lee', 'Female', 27, '292-723-1231');
```

```
Query OK, 3 rows affected (0.01 sec)
Records: 3 Duplicates: 0 Warnings: 0
```

```
mysql> ^C
```

```
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	Brunce Lee	male	20	888-888-8888
5	David Lee	Male	34	732-372-8377
6	Stephen Lee	Male	55	743-948-2323
7	Jenny Lee	Female	27	292-723-1231

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

4.

```
mysql> SELECT *
-> FROM user
-> WHERE age BETWEEN 20 AND 30
-> AND name LIKE '%Lee%'
-> ORDER BY age DESC;
```

id	name	sex	age	phone
7	Jenny Lee	Female	27	292-723-1231
4	Brunce Lee	male	20	888-888-8888

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

5.

```
mysql> SELECT AVG(age) AS average_age
-> FROM user;
```

average_age
30.5714

```
1 row in set (0.00 sec)
```

6.

```
mysql> CREATE TABLE team(
-> id INT AUTO_INCREMENT PRIMARY KEY,
-> teamName VARCHAR(255) NOT NULL
-> );
Query OK, 0 rows affected (0.04 sec)

mysql> CREATE TABLE score (
-> id INT AUTO_INCREMENT PRIMARY KEY,
-> teamid INT NOT NULL,
-> userid INT NOT NULL,
-> score INT NOT NULL,
-> FOREIGN KEY (teamid) REFERENCES team(id),
-> FOREIGN KEY (userid) REFERENCES user(id)
-> );
ERROR 1822 (HY000): Failed to add the foreign key constraint. Missing index for constraint 'score_ibfk_2' in the referenced table 'user'
mysql> ALTER TABLE user ADD UNIQUE (id);
Query OK, 0 rows affected (0.04 sec)
Records: 0 Duplicates: 0 Warnings: 0

mysql> CREATE TABLE score (
-> id INT AUTO_INCREMENT PRIMARY KEY,
-> teamid INT NOT NULL,
-> userid INT NOT NULL,
-> score INT NOT NULL,
-> FOREIGN KEY (teamid) REFERENCES team(id),
-> FOREIGN KEY (userid) REFERENCES user(id)
-> );
Query OK, 0 rows affected (0.02 sec)
```

7.

```
mysql> insert into team (id, teamName)
-> values
-> (1, 'ECNU'),
-> (2, 'Ateam'),
-> (3, 'Bteam'),
-> (4, 'Cteam');
Query OK, 4 rows affected (0.01 sec)
Records: 4 Duplicates: 0 Warnings: 0

mysql> insert into score(id, teamid, userid, score)
-> values
-> (1, 1, 4, 100),
-> (2, 2, 1, 97),
-> (3, 3, 5, 88),
-> (4, 4, 3, 93);
Query OK, 4 rows affected (0.01 sec)
Records: 4 Duplicates: 0 Warnings: 0

mysql> -- 查询 teamName 为 "ECNU" 的队伍中, 年龄小于 20 的用户们
mysql> SELECT u.id, u.name, u.age, s.score
-> FROM team t
-> JOIN score s ON t.id = s.teamid
-> JOIN user u ON s.userid = u.id
-> WHERE t.teamName = 'ECNU' AND u.age < 20;
Empty set (0.00 sec)

mysql>
mysql> insert into score(id, teamid, userid, score)
-> values
-> (5, 2, 2, 97),
-> (6, 3, 6, 88),
-> (7, 4, 7, 93);
ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that corresponds to your MySQL server version for the right syntax to use near '(6, 3, 6, 88)
(7, 4, 7, 93)' at line 4
```

```
mysql> insert into score(id, teamid, userid, score)
-> values
-> (5, 2, 2, 97),
-> (6, 3, 6, 88),
-> (7, 4, 7, 93);
Query OK, 3 rows affected (0.00 sec)
Records: 3 Duplicates: 0 Warnings: 0

mysql> insert into user (id, name, sex, age, phone)
-> values(8, 'GG Bond', 'male', 17, '843-3438-3428');
Query OK, 1 row affected (0.00 sec)

mysql> insert into score(id, teamid, userid, score)
-> values(8, 1, 8, 100);
Query OK, 1 row affected (0.00 sec)

mysql> SELECT u.id, u.name, u.age, s.score
-> FROM team t
-> JOIN score s ON t.id = s.teamid
-> JOIN user u ON s.userid = u.id
-> WHERE t.teamName = 'ECNU' AND u.age < 20;
-> \c
mysql> SELECT u.id, u.name, u.age, s.score
-> FROM team t
-> JOIN score s ON t.id = s.teamid
-> JOIN user u ON s.userid = u.id
-> WHERE t.teamName = 'ECNU' AND u.age < 20;
ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that corresponds to your MySQL server version for the right syntax to use near 'FROM team t
JOIN score s ON t.id = s.teamid
JOIN user u ON s.userid = u.id' at line 2
mysql> SELECT u.id, u.name, u.age, s.score
-> FROM team t
-> JOIN score s ON t.id = s.teamid
-> JOIN user u ON s.userid = u.id
-> WHERE t.teamName = 'ECNU' AND u.age < 20;
+-----+-----+-----+
| id | name | age | score |
+-----+-----+-----+
| 8 | GG Bond | 17 | 100 |
+-----+-----+-----+
```

8.

```
mysql> SELECT COALESCE(SUM(s.score), 0) AS total_score
-> FROM team t
-> JOIN score s ON t.id = s.teamid
-> WHERE t.teamName = 'ECNU';
+-----+
| total_score |
+-----+
|          200 |
+-----+
1 row in set (0.00 sec)
```

9.不能直接删除表内容，要先把 user 表与 score 的连接断掉

```
mysql> DELETE FROM user;
ERROR 1451 (23000): Cannot delete or update a parent row: a foreign key constraint fails ('my_database`.`score`, CONSTRAINT `score_ibfk_2` FOREIGN KEY (`userid`) REFERENCES `user` (`id`))
mysql> DELETE FROM score
-> WHERE userid IN (SELECT id FROM user);
Query OK, 8 rows affected (0.00 sec)

mysql> DELETE FROM user;
Query OK, 8 rows affected (0.00 sec)

mysql> select *from user
-> \c
mysql> select *from user;
Empty set (0.00 sec)
```