1. Create a database with name entry

```
mysql> CREATE DATABASE entry;
Query OK, 1 row affected (1.22 sec)

mysql> show databases;
+--------------------+
| Database           |
+--------------------+
| classicmodels      |
| entri              |
| entry              |
| information_schema |
| mysql              |
| performance_schema |
| salesdb            |
| sample             |
| sys                |
+--------------------+
9 rows in set (0.74 sec)

mysql>
```

2. Create a table student with columns id primary key auto increment, first_name not null, last_name;

```
mysql> use entry;
Database changed
mysql> CREATE TABLE student(
    -> id INT PRIMARY KEY AUTO_INCREMENT,
    -> first_name VARCHAR(100) NOT NULL,
    -> last_name VARCHAR(100)
    -> );
Query OK, 0 rows affected (4.27 sec)

mysql> show tables;
+-----------------+
| Tables_in_entry |
+-----------------+
| student         |
+-----------------+
1 row in set (0.57 sec)

mysql>
```

3. Alter table and add column age and dept
Insert values (Maria, Gloria, CS, 22), (John, Smith,IT, 23),(Gal, Rao, CS,22),(Jakey, Smith,EC,24), (Rama,Saho,IT,22),(Maria,Gaga,EC,23);

```
mysql> ALTER TABLE student
    -> ADD
    -> department VARCHAR(2),
    -> ADD age INT;
Query OK, 0 rows affected (0.51 sec)
Records: 0  Duplicates: 0  Warnings: 0

mysql> describe student;
+------------+--------------+------+-----+---------+----------------+
| Field      | Type         | Null | Key | Default | Extra          |
+------------+--------------+------+-----+---------+----------------+
| id         | int          | NO   | PRI | NULL    | auto_increment |
| first_name | varchar(100) | NO   |     | NULL    |                |
| last_name  | varchar(100) | YES  |     | NULL    |                |
| department | varchar(2)   | YES  |     | NULL    |                |
| age        | int          | YES  |     | NULL    |                |
+------------+--------------+------+-----+---------+----------------+
5 rows in set (0.03 sec)

mysql> INSERT INTO student(first_name,last_name,department,age)
    -> VALUES('Maria', 'Gloria', 'CS', 22),
    ->        ('John', 'Smith', 'IT', 23),
    ->        ('Gal', 'Rao', 'CS', 22),
    ->        ('Jakey', 'Smith', 'EC', 24),
    ->        ('Rama', 'Saho', 'IT', 22),
    ->        ('Maria', 'Gaga', 'EC', 23);
Query OK, 6 rows affected (0.27 sec)
Records: 6  Duplicates: 0  Warnings: 0

mysql> select * from student;
+----+------------+-----------+------------+------+
| id | first_name | last_name | department | age  |
+----+------------+-----------+------------+------+
|  1 | Maria      | Gloria    | CS         |   22 |
|  2 | John       | Smith     | IT         |   23 |
|  3 | Gal        | Rao       | CS         |   22 |
|  4 | Jakey      | Smith     | EC         |   24 |
|  5 | Rama       | Saho      | IT         |   22 |
|  6 | Maria      | Gaga      | EC         |   23 |
+----+------------+-----------+------------+------+
6 rows in set (0.05 sec)

mysql>
```

4. Select all items in student table

```
mysql> INSERT INTO student(first_name,last_name,department,age)
    -> VALUES('Maria', 'Gloria', 'CS', 22),
    ->        ('John', 'Smith', 'IT', 23),
    ->        ('Gal', 'Rao', 'CS', 22),
    ->        ('Jakey', 'Smith', 'EC', 24),
    ->        ('Rama', 'Saho', 'IT', 22),
    ->        ('Maria', 'Gaga', 'EC', 23);
Query OK, 6 rows affected (0.27 sec)
Records: 6  Duplicates: 0  Warnings: 0

mysql> select * from student;
+----+------------+-----------+------------+------+
| id | first_name | last_name | department | age  |
+----+------------+-----------+------------+------+
|  1 | Maria      | Gloria    | CS         |   22 |
|  2 | John       | Smith     | IT         |   23 |
|  3 | Gal        | Rao       | CS         |   22 |
|  4 | Jakey      | Smith     | EC         |   24 |
|  5 | Rama       | Saho      | IT         |   22 |
|  6 | Maria      | Gaga      | EC         |   23 |
+----+------------+-----------+------------+------+
6 rows in set (0.05 sec)
```

5. Select student names if last name = 'Smith'

```
mysql> SELECT first_name,last_name,age FROM student WHERE last_name='Smith';
+------------+-----------+------+
| first_name | last_name | age  |
+------------+-----------+------+
| John       | Smith     |   23 |
| Jakey      | Smith     |   24 |
+------------+-----------+------+
2 rows in set (0.05 sec)

mysql>
```

6. Order students with their department desc and age asc

```
mysql> SELECT * FROM student
    -> ORDER BY department DESC,
    -> age ASC;
+----+------------+-----------+------------+------+
| id | first_name | last_name | department | age  |
+----+------------+-----------+------------+------+
|  5 | Rama       | Saho      | IT         |   22 |
|  2 | John       | Smith     | IT         |   23 |
|  6 | Maria      | Gaga      | EC         |   23 |
|  4 | Jakey      | Smith     | EC         |   24 |
|  1 | Maria      | Gloria    | CS         |   22 |
|  3 | Gal        | Rao       | CS         |   22 |
+----+------------+-----------+------------+------+
6 rows in set (0.04 sec)

mysql> _
```

7. Select students with age is greater than or equal to 23 and department EC

```
mysql> SELECT * FROM student
    -> WHERE age>=23 AND department='EC';
+----+------------+-----------+------------+------+
| id | first_name | last_name | department | age  |
+----+------------+-----------+------------+------+
|  4 | Jakey      | Smith     | EC         |   24 |
|  6 | Maria      | Gaga      | EC         |   23 |
+----+------------+-----------+------------+------+
2 rows in set (0.04 sec)

mysql>
```

8. Select students where department CS or IT

```
mysql> SELECT * FROM student
    -> WHERE department IN ('CS','IT');
+----+------------+-----------+------------+------+
| id | first_name | last_name | department | age  |
+----+------------+-----------+------------+------+
|  1 | Maria      | Gloria    | CS         |   22 |
|  2 | John       | Smith     | IT         |   23 |
|  3 | Gal        | Rao       | CS         |   22 |
|  5 | Rama       | Saho      | IT         |   22 |
+----+------------+-----------+------------+------+
4 rows in set (0.00 sec)

mysql>
```