1. Create a database with name entry

Command Prompt - mysql -u root -p

mysql> show databases;
+--------------------+
| Database |
+--------------------+
| ak |
| classicmodels |
| entriakshay |
| information_schema |
| mysql |
| newschema |
| performance_schema |
| sample |
| sys |
+--------------------+
9 rows in set (0.00 sec)

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

mysql> show databases;
+--------------------+
| Database |
+--------------------+
| ak |
| classicmodels |
| entriakshay |
| entry |
| information_schema |
| mysql |
| newschema |
| performance_schema |
| sample |
| sys |
+--------------------+
10 rows in set (0.00 sec)

mysql>

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

Command Prompt - mysql -u root -p

+--------------------+
10 rows in set (0.00 sec)

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 (0.04 sec)

mysql> SHOW TABLES;
+----------------+
| Tables_in_entry |
+----------------+
| student |
+----------------+
1 row in set (0.00 sec)

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)

```
Command Prompt - mysql -u root -p                                                    —  □  ×
mysql> ALTER TABLE Student
    -> ADD
    -> department VARCHAR(100),
    -> ADD age INT;
Query OK, 0 rows affected (0.04 sec)
Records: 0  Duplicates: 0  Warnings: 0

mysql> DESC 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(100) | YES  |     | NULL    |                |
| age        | int          | YES  |     | NULL    |                |
+------------+--------------+------+-----+---------+----------------+
5 rows in set (0.00 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','Shao','IT',22),
    -> ('Maria','Gaga','EC',23);
Query OK, 6 rows affected (0.01 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       | Shao      | IT         |  22  |
|  6 | Maria      | Gaga      | EC         |  23  |
+----+------------+-----------+------------+------+
6 rows in set (0.00 sec)
```

4. Select all items in student table

```
Command Prompt - mysql -u root -p                                                    —  □  ×
5 rows in set (0.00 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','Shao','IT',22),
    -> ('Maria','Gaga','EC',23);
Query OK, 6 rows affected (0.01 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       | Shao      | IT         |  22  |
|  6 | Maria      | Gaga      | EC         |  23  |
+----+------------+-----------+------------+------+
6 rows in set (0.00 sec)
```

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

```
Command Prompt - mysql -u root -p                                                    —  □  ×
+-----------+
2 rows in set (0.00 sec)

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 (0.00 sec)
```

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       | Shao      | 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 (0.00 sec)
```

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

```
6 rows in set (0.00 sec)

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 (0.00 sec)
```

8. Select students where department CS or IT

```
2 rows in set (0.00 sec)

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       | Shao      | IT         |   22 |
+----+------------+-----------+------------+------+
4 rows in set (0.00 sec)

mysql>
```