1)Create 3 tables named students,department,year

```
mysql> use 597;
Database changed
#creaating department table
mysql> -- Create the department table
mysql> CREATE TABLE department (
-> dept_id INT PRIMARY KEY AUTO_INCREMENT,
-> dept_name VARCHAR(50) NOT NULL -> );
Query OK, 0 rows affected (0.01 sec)
#creating year table
mysql>
mysql> -- Create the year table
mysql> CREATE TABLE year (
-> year_id INT PRIMARY KEY AUTO_INCREMENT,
-> year_name VARCHAR(20) NOT NULL
-> );
Query OK, 0 rows affected (0.01 sec)
```

2)student should contain relationship to both department and year

```
#creating student table
mysql>
mysql> -- Create the students table with foreign key relationships
mysql> CREATE TABLE students (
-> student_id INT PRIMARY KEY AUTO_INCREMENT,
-> student_name VARCHAR(100) NOT NULL,
-> dept_id INT,
-> year_id INT,
-> FOREIGN KEY (dept_id) REFERENCES department(dept_id),
-> FOREIGN KEY (year_id) REFERENCES year(year_id)
Query OK, 0 rows affected (0.03 sec)
mysql> desc department;
+-----------+-------------+------+-----+---------+----------------+
| Field | Type | Null | Key | Default | Extra |
+-----------+-------------+------+-----+---------+----------------+
| dept_id | int | NO | PRI | NULL | auto_increment |
| dept_name | varchar(50) | NO | | NULL | |
+-----------+-------------+------+-----+---------+----------------+
2 rows in set (0.00 sec)
mysql> desc year;
+-----------+-------------+------+-----+---------+----------------+
| Field | Type | Null | Key | Default | Extra |
```

```
+-----------+-------------+------+-----+---------+----------------+
| year_id | int | NO | PRI | NULL | auto_increment |
| year_name | varchar(20) | NO | | NULL | |
+-----------+-------------+------+-----+---------+----------------+
2 rows in set (0.00 sec
mysql> desc student;
+--------------+--------------+------+-----+---------+----------------+
| Field | Type | Null | Key | Default | Extra |
+--------------+--------------+------+-----+---------+----------------+
| student_id | int | NO | PRI | NULL | auto_increment |
| student_name | varchar(100) | NO | | NULL | |
| dept_id | int | YES | MUL | NULL | |
| year_id | int | YES | MUL | NULL | |
+--------------+--------------+------+-----+---------+----------------+
```

3)5)write a query to display students from CSE department

```
mysql> SELECT students.student_id, students.student_name, department.dept_name
-> FROM students
-> JOIN department ON students.dept_id = department.dept_id
-> WHERE department.dept_name = 'CSE';
+------------+-----------------+-----------+
| student_id | student_name | dept_name |
+------------+-----------------+-----------+
| 1 | Student 1 - CSE | CSE |
| 2 | Student 2 - CSE | CSE |
| 3 | Student 3 - CSE | CSE |
| 4 | Student 4 - CSE | CSE |
+------------+-----------------+-----------+
4 rows in set (0.01 sec
```

)write a query to display only deptname using student table

```
| dept_name |
+-----------+
| CSE |
```

MONGODB

6)use chatgpt and ask like "this is my table in mysql how can i create same in mongodb"

```
// department collection
{ department_name: "Computer Science" }
{ department_name: "Mathematics" }
{ department_name: "English" }
```

// year collection
{ year_name: "First" }
{ year_name: "Second" }
{ year_name: "Third" }
// student collection
{ student_name: "abci", department_id: ObjectId("department_id_for_CS"), year_id: ObjectId("year_id_for_Second") }
{ student_name: "def", department_id: ObjectId("department_id_for_Math"), year_id: ObjectId("year_id_for_First") }
{ student_name: "xyz", department_id: ObjectId("department_id_for_English"), year_id: ObjectId("year_id_for_Third") }| ECE |
| EE |
| ME |
| Civil |
+-----------+
5 rows in set (0.00 sec)
mysql> SELECT DISTINCT department.dept_name
-> FROM students
-> JOIN department ON students.dept_id = department.dept_id;
+-----------+

7)write a query to display students sorted by dept and firstname
mysql> SELECT students.student_id, students.student_name, department.dept_name
-> FROM students
-> JOIN department ON students.dept_id = department.dept_id
-> ORDER BY department.dept_name, students.student_name;
+------------+------------------+-----------+
| student_id | student_name | dept_name |
+------------+------------------+-----------+
17	Student 1 - Civil	Civil
18	Student 2 - Civil	Civil
19	Student 3 - Civil	Civil
20	Student 4 - Civil	Civil
1	Student 1 - CSE	CSE
2	Student 2 - CSE	CSE
3	Student 3 - CSE	CSE
4	Student 4 - CSE	CSE
5	Student 1 - ECE	ECE
9 rows in set (0.01 sec)