1.Create three tables named students,department,year

2.Student should contain relationship to both department and year

mysql -u root -p

Enter password: ***

Welcome to the MySQL monitor. Commands end with ; or \g.

Your MySQL connection id is 11

Server version: 8.0.37 MySQL Community Server - GPL

#Create database databasename

mysql> create database nikitha;

Query OK, 1 row affected (0.01 sec)

mysql> use nikitha;

Database changed

#Creating department table

```
mysql> -- Create the 'department' table
mysql> CREATE TABLE department (
    ->     dept_id INT PRIMARY KEY,
    ->     dept_name VARCHAR(50) NOT NULL
    -> );
```

Query OK, 0 rows affected (0.02 sec)

#creating year table

```
mysql> -- Create the 'year' table
mysql> CREATE TABLE year (
    ->     year_id INT PRIMARY KEY,
    ->     year_name VARCHAR(10) NOT NULL
    -> );
```

Query OK, 0 rows affected (0.01 sec)

#creating a student table and adding dept id and year id as foreign key

mysql> -- Create the 'students' table

```
mysql> CREATE TABLE students (
    ->     student_id INT PRIMARY KEY,
    ->     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 (0.07 sec)
```

mysql> desc students;

```
+--------------+--------------+------+-----+---------+-------+
| Field        | Type         | Null | Key | Default | Extra |
+--------------+--------------+------+-----+---------+-------+
| student_id   | int          | NO   | PRI | NULL    |       |
| student_name | varchar(100) | NO   |     | NULL    |       |
| dept_id      | int          | YES  | MUL | NULL    |       |
| year_id      | int          | YES  | MUL | NULL    |       |
+--------------+--------------+------+-----+---------+-------+
4 rows in set (0.02 sec)
```

mysql> desc department;

```
+-----------+-------------+------+-----+---------+-------+
| Field     | Type        | Null | Key | Default | Extra |
+-----------+-------------+------+-----+---------+-------+
| dept_id   | int         | NO   | PRI | NULL    |       |
| 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    |       |
| year_name | varchar(10) | NO   |     | NULL    |       |
+-----------+-------------+------+-----+---------+-------+
```

2 rows in set (0.00 sec)

4.store five students for each department

#inserting values into department table mysql> INSERT

INTO department (dept_name) VALUES

```
    -> ('CSE'),
    -> ('ECE'),
    -> ('EE'),
    -> ('ME'),
    -> ('Civil');
```

Query OK, 5 rows affected (0.01 sec) Records:

5 Duplicates: 0 Warnings: 0

#Displaying values of Department table

mysql> select * from department;

```
+---------+-----------+
| dept_id | dept_name |
+---------+-----------+
|       1 | CSE       |
|       2 | ECE       |
|       3 | EE        |
|       4 | ME        |
|       5 | Civil     |
+---------+-----------+
```

5 rows in set (0.00 sec)

#inserting values into year table mysql> INSERT

INTO year (year_name) VALUES

-> ('Year 1'),

-> ('Year 2'),

-> ('Year 3'),

-> ('Year 4');

Query OK, 4 rows affected (0.00 sec)

Records: 4 Duplicates: 0 Warnings: 0

#Displaying values of year table

mysql> select * from year;

```
+---------+-----------+
| year_id | year_name |
+---------+-----------+
|       1 | Year 1    |
|       2 | Year 2    |
|       3 | Year 3    |
|       4 | Year 4    |
+---------+-----------+
```

4 rows in set (0.00 sec)

#inserting values into student table

mysql> INSERT INTO students (student_name, dept_id, year_id) VALUES

-> ('Student 1 - CSE', 1, 1), ('Student 2 - CSE', 1, 2), ('Student 3 - CSE', 1, 3), ('Student 4 - CSE', 1, 4),

-> ('Student 1 - ECE', 2, 1), ('Student 2 - ECE', 2, 2), ('Student 3 - ECE', 2, 3), ('Student 4 - ECE', 2, 4),

-> ('Student 1 - EE', 3, 1), ('Student 2 - EE', 3, 2), ('Student 3 - EE', 3, 3), ('Student 4 - EE', 3, 4),

-> ('Student 1 - ME', 4, 1), ('Student 2 - ME', 4, 2), ('Student 3 - ME', 4, 3), ('Student 4 - ME', 4, 4),

-> ('Student 1 - Civil', 5, 1), ('Student 2 - Civil', 5, 2), ('Student 3 - Civil', 5, 3), ('Student 4 - Civil', 5, 4);

Query OK, 20 rows affected (0.00 sec) Records:

20 Duplicates: 0 Warnings: 0

#Displaying values of student table

mysql> select * from students;

```
+------------+------------------+---------+---------+
| student_id | student_name     | dept_id | year_id |
+------------+------------------+---------+---------+
|          1 | Student 1 - CSE  |       1 |       1 |
|          2 | Student 2 - CSE  |       1 |       2 |
|          3 | Student 3 - CSE  |       1 |       3 |
|          4 | Student 4 - CSE  |       1 |       4 |
|          5 | Student 1 - ECE  |       2 |       1 |
|          6 | Student 2 - ECE  |       2 |       2 |
|          7 | Student 3 - ECE  |       2 |       3 |
|          8 | Student 4 - ECE  |       2 |       4 |
|          9 | Student 1 - EE   |       3 |       1 |
|         10 | Student 2 - EE   |       3 |       2 |
|         11 | Student 3 - EE   |       3 |       3 |
|         12 | Student 4 - EE   |       3 |       4 |
|         13 | Student 1 - ME   |       4 |       1 |
|         14 | Student 2 - ME   |       4 |       2 |
|         15 | Student 3 - ME   |       4 |       3 |
|         16 | Student 4 - ME   |       4 |       4 |
|         17 | Student 1 - Civil |      5 |       1 |
|         18 | Student 2 - Civil |      5 |       2 |
|         19 | Student 3 - Civil |      5 |       3 |
|         20 | Student 4 - Civil |      5 |       4 |
+------------+------------------+---------+---------+
20 rows in set (0.00 sec)
```

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)
```

6.write a query to display only deptname using student table

```
mysql> SELECT DISTINCT department.dept_name
    -> FROM students
    -> JOIN department ON students.dept_id = department.dept_id;
+-----------+
| dept_name |
+-----------+
| CSE       |
| ECE       |
| EE        |
| ME        |
| Civil     |
+-----------+
5 rows in set (0.00 sec)
```

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 |
| 6 | Student 2 - ECE | ECE |

| 7 | Student 3 - ECE | ECE |

| 8 | Student 4 - ECE | ECE |

| 9 | Student 1 - EE | EE |
| 10 | Student 2 - EE | EE |

| 11 | Student 3 - EE | EE |

| 12 | Student 4 - EE | EE |

| 13 | Student 1 - ME | ME |

| 14 | Student 2 - ME | ME |

| 15 | Student 3 - ME | ME |

| 16 | Student 4 - ME | ME |
+------------+------------------+-----------+

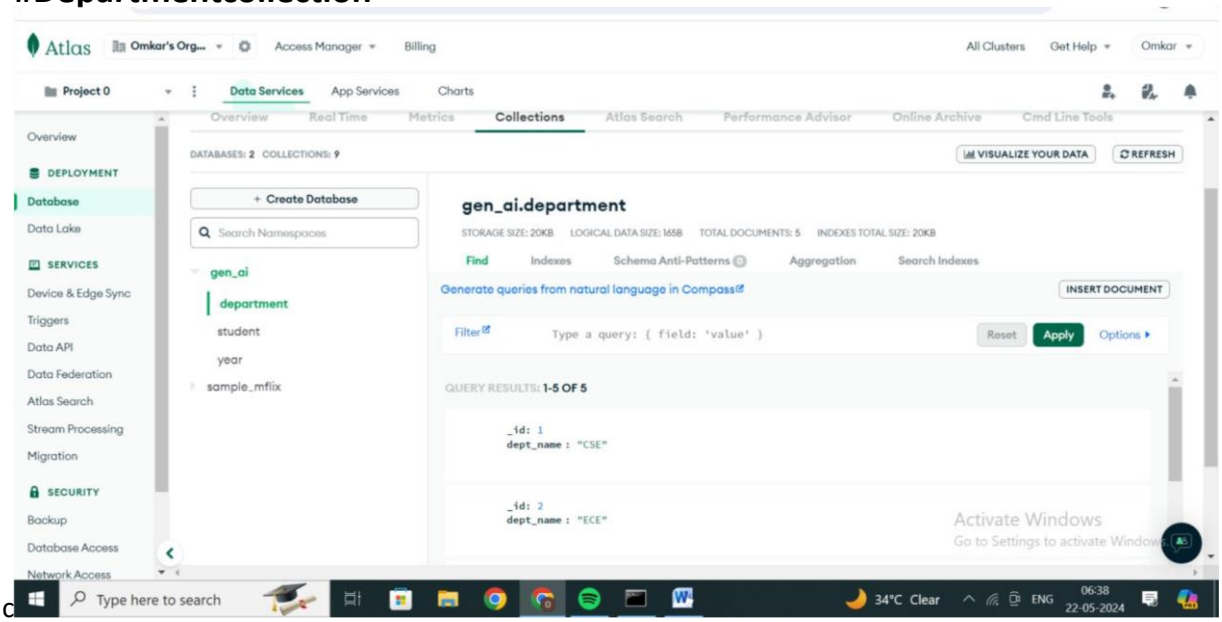
20 rows in set (0.01 sec)

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

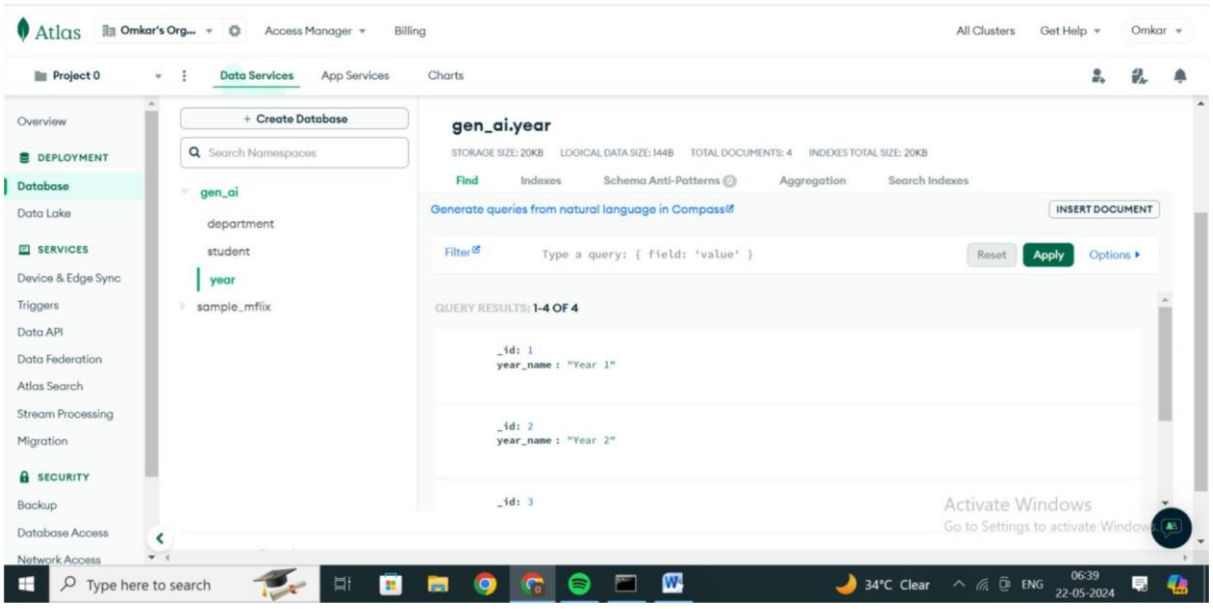
//Creating a database called gen_ai in mongodb and

Adding collections called Department,Year and Students using mango db atlas

#Departmentcollection



#Year collection



#Student Collection