Assignment-3

1)Create 3 tables named students,department,year

1. Create the `department` table

```
CREATE TABLE department (
   department_id INT AUTO_INCREMENT PRIMARY KEY,
   department_name VARCHAR(100) NOT NULL
);
```

2. Create the `year` table

```
CREATE TABLE year (
   year_id INT AUTO_INCREMENT PRIMARY KEY,
   year_name VARCHAR(100) NOT NULL
);
```

3. Create the `student` table

```
CREATE TABLE student (
   student_id INT AUTO_INCREMENT PRIMARY KEY,
   student_name VARCHAR(100) NOT NULL,
   department_id INT,
   year_id INT,
   FOREIGN KEY (department_id) REFERENCES department(department_id),
   FOREIGN KEY (year_id) REFERENCES year(year_id)
);
```

2)student should contain relationship to both department and year

Insert into department table:

```
INSERT INTO department (department_name) VALUES ("Computer Science");
INSERT INTO department (department_name) VALUES ("Mathematics");
```

INSERT INTO department (department_name) VALUES ("English");

SELECT * FROM department;

department_id	department_name
1	Computer Science
2	Mathematics
3	English

Insert into year table:

INSERT INTO year (year_name) VALUES ("First");

INSERT INTO year (year_name) VALUES ("Second");

INSERT INTO year (year_name) VALUES ("Third");

SELECT * FROM year;

Year_id	Year_name
1	First
2	Second
3	Third

Insert into student table:

INSERT INTO student (student_name, department_id, year_id) VALUES ("Khushi", 1, 2); -- Computer Science, Second

INSERT INTO student (student_name, department_id, year_id) VALUES ("sid", 2, 1); -- Mathematics, First

INSERT INTO student (student_name, department_id, year_id) VALUES ("sidshi", 3, 3); -- English, Third

SELECT * FROM student;

Student_id	Student_name	Department_id	Year_id
1	khushi	1	2
2	sid	2	1

MONGODB

3)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" }

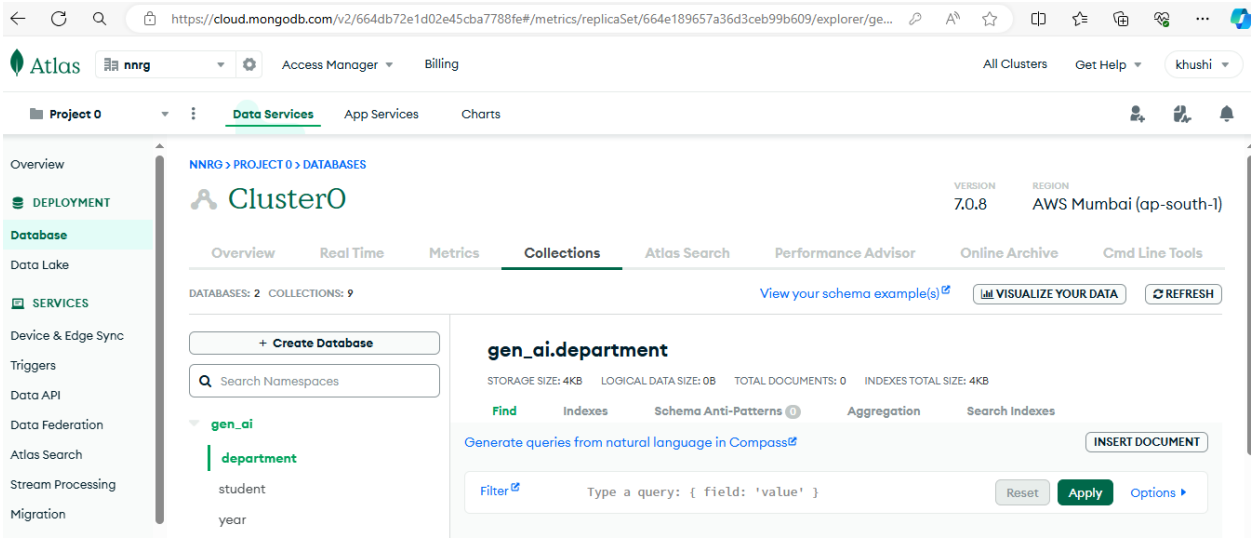
{ year_name: "Third" }

// student collection

{ student_name: "Khushi", department_id: ObjectId("department_id_for_CS"), year_id: ObjectId("year_id_for_Second") }

{ student_name: "Sid", department_id: ObjectId("department_id_for_Math"), year_id: ObjectId("year_id_for_First") }

{ student_name: "Sidshi", department_id: ObjectId("department_id_for_English"), year_id: ObjectId("year_id_for_Third") }



4)store 5 students for each department

```
CREATE TABLE student (
 student_id INT PRIMARY KEY AUTO_INCREMENT,
 student_name VARCHAR(255) NOT NULL,
 department VARCHAR(255) NOT NULL
);


INSERT INTO student (student_name, department) VALUES
 ("khushi", "CSE"),
 ("saloni", "IT"),
 ("savita", "AIML"),
 ("sanjay", "DS"),
 ("sid", "CSE");
```

Input

Run SQL

```
INSERT INTO student (student_id,student_name, department) VALUES
  (1,"khushi", "CSE"),
  (2,"saloni", "IT"),
  (3,"savita", "AIML"),
  (4,"sanjay", "DS"),
  (5,"sid", "CSE");
SELECT *FROM student;
```

Output

student_id	student_name	department
1	khushi	CSE
2	saloni	IT
3	savita	AIML
4	sanjay	DS

5)write a query to display students from CSE department

Input

Run SQL

```
INSERT INTO student (student_id,student_name, department) VALUES
  (1,"khushi", "CSE"),
  (2,"saloni", "IT"),
  (3,"savita", "AIML"),
  (4,"sanjay", "DS"),
  (5,"sid", "CSE");
SELECT *FROM student where department="CSE";
```

Output

student_id	student_name	department
1	khushi	CSE
5	sid	CSE

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

Input

Run SQL

```
INSERT INTO student (student_id,student_name, department) VALUES
  (1,"khushi", "CSE"),
  (2,"saloni", "IT"),
  (3,"savita", "AIML"),
  (4,"sanjay", "DS"),
  (5,"sid", "CSE");
SELECT department FROM student;
```

Output

department
CSE
IT
AIML
DS

7)write a query to display students sorted by dept and firstname

Input

Run SQL

```
    department_name VARCHAR(100) NOT NULL

);
INSERT INTO department (department_name) VALUES ("CSE");

INSERT INTO department (department_name) VALUES ("IT");

INSERT INTO department (department_name) VALUES ("AIML");

  SELECT student.student_name AS firstname, department.department_name AS
dept
FROM student
INNER JOIN department ON student.department = department.department_name
ORDER BY dept, firstname;
```

Output

firstname	dept
savita	AIML
khushi	CSE
sid	CSE
saloni	IT