

1) Create 3 tables named students, department, year

```
mysql> use kapil;
```

Database changed

#creating 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	

4 rows in set (0.00 sec)

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

kapol.student

STORAGE SIZE: 4KB LOGICAL DATA SIZE: 0B TOTAL DOCUMENTS: 0 INDEXES TOTAL SIZE: 4KB

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QUERY RESULTS: 1-2 OF 2

```
_id: ObjectId('664e23fe75100bc00acc407f')
insert: "student"
documents: Array (3)
```

```
_id: ObjectId('664e246075100bc00acd24f2')
insert: "student"
documents: Array (2)
```

kapol.dept

STORAGE SIZE: 4KB LOGICAL DATA SIZE: 0B TOTAL DOCUMENTS: 0 INDEXES TOTAL SIZE: 4KB

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QUERY RESULTS: 1-2 OF 2

```
_id: ObjectId('664e258575100bc00ad002ce')
insert: "dept"
documents: Array (4)
```

```
_id: ObjectId('664e261275100bc00ad1660d')
insert: "dept"
documents: Array (4)
```



kapil.year

STORAGE SIZE: 4KB LOGICAL DATA SIZE: 0B TOTAL DOCUMENTS: 0 INDEXES TOTAL SIZE: 4KB

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QUERY RESULTS: 1-1 OF 1

```

_id: ObjectId('664e278a75109bc00ad500d5')
insert: "year"
documents: Array (2)

```

#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:

#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 |
10 rows in set(0.00sec)
```

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 |
```

9 rows in set (0.01 sec)

