PRACTICAL NO. 1

Aim: Create tables using different applications

Oracle and MySQL->

1.Create table Student: Roll_No(Primary Key), Name, Class, Course_ID(Foreign Key).

CREATE TABLE Student (Roll_No INT NOT NULL AUTO_INCREMENT PRIMARY KEY, Name VARCHAR(50) NOT NULL, Class VARCHAR(20) NOT NULL, Course_ID INT NOT NULL, FOREIGN KEY (Course_ID) REFERENCES Courses(Course_ID));

```
mysql> desc Student;
+-----------+-------------+------+-----+---------+----------------+
| Field     | Type        | Null | Key | Default | Extra          |
+-----------+-------------+------+-----+---------+----------------+
| Roll_No   | int(11)     | NO   | PRI | NULL    | auto_increment |
| Name      | varchar(50) | NO   |     |         |                |
| Class     | varchar(20) | NO   |     |         |                |
| Course_ID | int(11)     | NO   | MUL |         |                |
+-----------+-------------+------+-----+---------+----------------+
4 rows in set (0.00 sec)
```

2. Create table Library: Course_ID, Course_Name(Primary Key).

```
mysql> CREATE TABLE Courses (
    ->   Course_ID INT NOT NULL PRIMARY KEY,
    ->   Course_Name VARCHAR(50) NOT NULL
    -> );
Query OK, 0 rows affected (0.02 sec)

mysql> desc Courses;
+-------------+-------------+------+-----+---------+-------+
| Field       | Type        | Null | Key | Default | Extra |
+-------------+-------------+------+-----+---------+-------+
| Course_ID   | int(11)     | NO   | PRI |         |       |
| Course_Name | varchar(50) | NO   |     |         |       |
+-------------+-------------+------+-----+---------+-------+
2 rows in set (0.02 sec)
```

3. Insert 5 records in each of the above tables.

```
mysql> select * from Courses;
+-------------+--------------------+
| Course_ID   | Course_Name        |
+-------------+--------------------+
|         101 | Computer Science   |
|         102 | Biotechnology      |
|         103 | Mathematics        |
|         104 | Physics            |
|         105 | BAF                |
+-------------+--------------------+
5 rows in set (0.00 sec)
```

```
mysql> select * from student1;
+--------+---------+-------+-------------+
| rollno | name    | class | course      |
+--------+---------+-------+-------------+
|     12 | sumit   | tycs  | cs          |
|     14 | chirag  | fyai  | ai          |
|     16 | shubham | sy    | datascience |
|     18 | ansh    | tyit  | it          |
|     20 | yash    | sybms | bms         |
+--------+---------+-------+-------------+
```

4. Add a column "Credits" in the Courses table and update with values in range (2 to 4).

```
mysql> update Courses set Credits=2 where Course_ID=101;
Query OK, 1 row affected (0.01 sec)
Rows matched: 1  Changed: 1  Warnings: 0

mysql> update Courses set Credits=3 where Course_ID=102;
Query OK, 1 row affected (0.01 sec)
Rows matched: 1  Changed: 1  Warnings: 0

mysql> update Courses set Credits=4 where Course_ID=103;
Query OK, 1 row affected (0.01 sec)
Rows matched: 1  Changed: 1  Warnings: 0

mysql> update Courses set Credits=3 where Course_ID=105;
Query OK, 1 row affected (0.01 sec)
Rows matched: 1  Changed: 1  Warnings: 0

mysql> update Courses set Credits=2 where Course_ID=104;
Query OK, 1 row affected (0.01 sec)
Rows matched: 1  Changed: 1  Warnings: 0

mysql> select * from Courses;
+-----------+-----------------+---------+
| Course_ID | Course_Name     | credits |
+-----------+-----------------+---------+
|       101 | Computer Science |       2 |
|       102 | Biotechnology    |       3 |
|       103 | Mathematics      |       4 |
|       104 | Physics          |       2 |
|       105 | BAF              |       3 |
+-----------+-----------------+---------+
```

5. Add a column "Marks" in the Student table and update with values range(0 to 100).

```
mysql> update student set Marks=floor(RAND()*101);
Query OK, 5 rows affected (0.01 sec)
Rows matched: 5  Changed: 5  Warnings: 0

mysql> select *from student;
+--------+---------+-------+-----------+-------+
| rollno | name    | class | Course_ID | Marks |
+--------+---------+-------+-----------+-------+
|     12 | sumit   | ty    |       101 |    17 |
|     13 | ansh    | sy    |       102 |    68 |
|     14 | chirag  | fy    |       103 |    84 |
|     15 | shubham | ty    |       104 |    18 |
|     16 | harsh   | sy    |       105 |    39 |
+--------+---------+-------+-----------+-------+
5 rows in set (0.00 sec)
```

6. Increase the marks of the 3rd student in the Student table by 10.

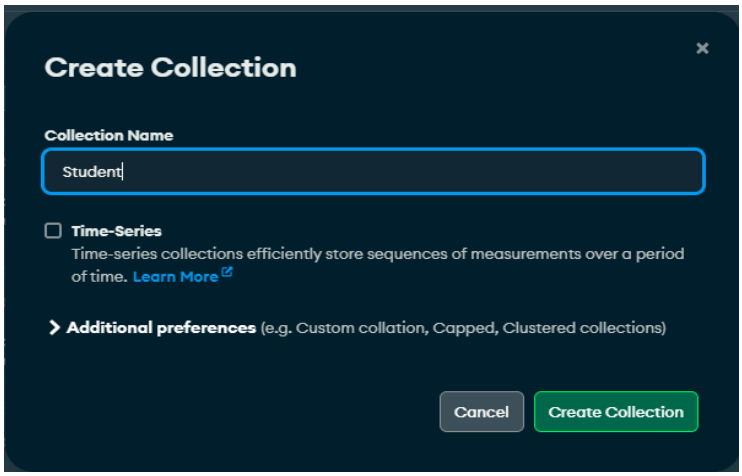
```
mysql> update student set Marks=Marks+10 where rollno=13;
Query OK, 1 row affected (0.01 sec)
Rows matched: 1  Changed: 1  Warnings: 0

mysql> select * from student;
+--------+---------+-------+-----------+-------+
| rollno | name    | class | Course_ID | Marks |
+--------+---------+-------+-----------+-------+
|     12 | sumit   | ty    |       101 |    17 |
|     13 | ansh    | sy    |       102 |    78 |
|     14 | chirag  | fy    |       103 |    84 |
|     15 | shubham | ty    |       104 |    18 |
|     16 | harsh   | sy    |       105 |    39 |
+--------+---------+-------+-----------+-------+
5 rows in set (0.00 sec)
```

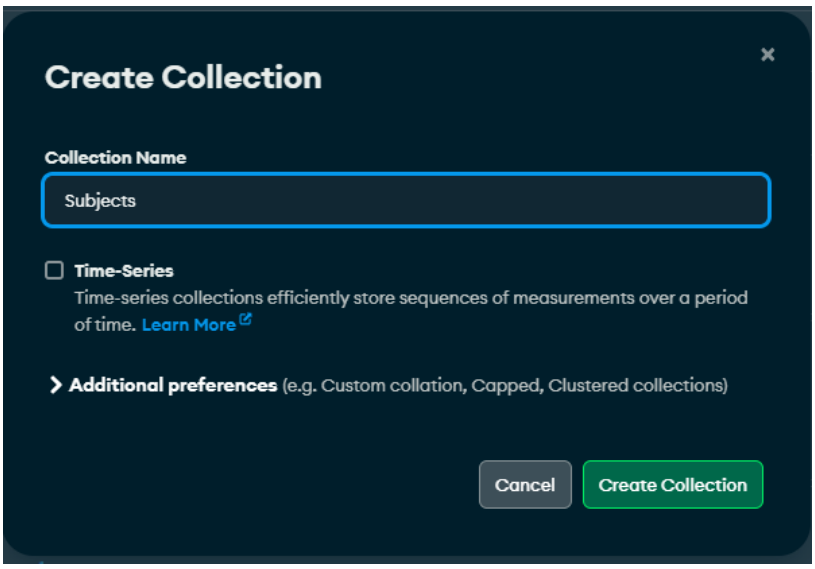
7. Find out the Course name of the 5th student in the Student table.

```
ysql> select Course_Name from Courses where Course_ID=(select Course_ID f
 student where rollno=16);
-------------+
 Course_Name |
-------------+
 BAF         |
-------------+
 row in set (0.00 sec)
```

MongoDB->

Step 1. Create a database : TYCS with 2 collections: Student and Subjects.





Step 2. Student documents will contain following fields: Roll_No, Name, Courses(May contain multiple values for subject names), CGPA, Address(Contains : Flat_No, Street_Name, City, State, Country)

Student

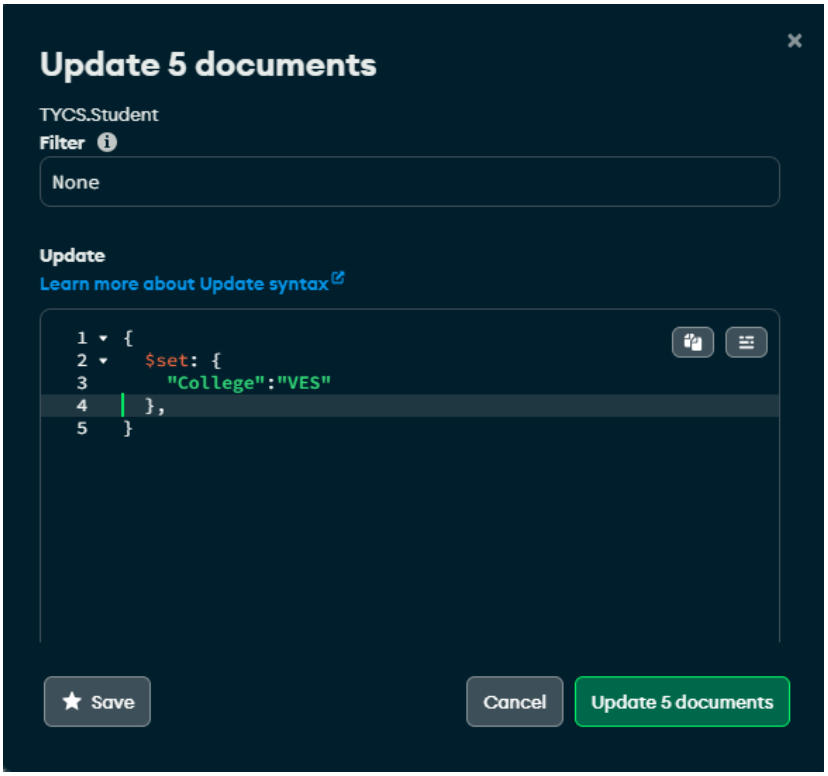
	_id ObjectId	Roll Int32	Name String	Courses Array	CGPA Double
1	ObjectId('669491ce34d96c…	28	"Dhruv Kushvaha"	[] 3 elements	9.9
2	ObjectId('6694925d34d96c…	31	"Manoj Maurya"	[] 3 elements	9.65
3	ObjectId('669492e334d96c…	38	"Ankit Prajapati"	[] 3 elements	9.45
4	ObjectId('6694934534d96c…	20	"Sonali Ingale"	[] 3 elements	7.45
5	ObjectId('6694936e34d96c…	3	"Shravani Anbhule"	[] 3 elements	8.76

Step 3. Subject document will contain following fields: Name, Reference_Book, Credits.

Subject

	_id ObjectId	Name String	Credits Int32	Reference_books Array	Class String
1	ObjectId('6694947c34d96c…	"Android Development"	2	[] 3 elements	"TYCS"
2	ObjectId('6694965a34d96c…	"Research Methodology"	2	[] 3 elements	"TYCS"
3	ObjectId('6694965a34d96c…	"Project Implementation"	1	[] 3 elements	"TYCS"
4	ObjectId('6694965a34d96c…	"Soft Skills"	1	[] 2 elements	"TYCS"
5	ObjectId('6694965a34d96c…	"Java Programming"	2	[] 2 elements	"TYCS"

Step 4. Update the Student documents to add College name(VES).



Step 5. Update the Subject documents to add Class(TYCS).