PROJECT WORK
STUDENT FACULTY MANAGEMEMENT
Submitted by

Jayathi Mishra 1000015105   **Vanshika Agarwal 1000015062**

Keerti Adhikari 1000015145   **Aryan Ajay Kumar 1000014923**

Submitted to

Mr. Nitin Thapiyal

Assistant Professor, School of Computing

ACKNOWLEGEMENT

Firstly, we would like to thank our teacher Mr. Nitin Thapiyal Sir who gave us this project. He gave us his valuable suggestions and ideas when we were in need of them. He encouraged us to work on this project.

We are also grateful to our college for giving us the opportunity to work and learn while making this project.

We would also like to thank our friends and everyone who helped us to complete this project.

We are immensely grateful to all involved in this project as without their inspiration and valuable suggestion it would not have been possible to develop the project in prescribed time.

INDEX

Problem Statement:

- Create a student faculty database management system which stores, retrieves and update the student faculty data in the computer system.

- The DBMS should manage incoming data, organizes it, and provides ways for the data to be modified or extracted by users or other programs.

- System should ensure the input, storage and edition of the data of student and faculty members.

- The system should be flexible enough to demonstrate relationship between courses ,respective faculty and respective students.

- Retrieval of student course and faculty should be there if student detail is given.

Features

- Student faculty database management system is designed to make the management of student and faculty data such as storage, tracking, and monitoring information simple and easy.

- It also enables authorities to share relevant information with students, faculties, and parents.

- The DBMS makes the process of student and faculty enrollment quick, systematic, and error-free.

- As the entire data is saved at a central location, typically in the cloud, and role-based access to data is granted to each stakeholder, the student data remains secure.

Tables

There are five tables in our student faculty database management system. These tables have been created using MySQL. The names of the table are given below:

1. course

2. faculty_details

3. stud_course

4. faculty_course

5. stud_details

DATATYPES OF THE TABLES

1. Course :

The table course has been created with attributes C_id of type varchar(3) and C_name of varchar(20) where C_id is the primary key.

```
mysql> desc course;
+--------+-------------+------+-----+---------+-------+
| Field  | Type        | Null | Key | Default | Extra |
+--------+-------------+------+-----+---------+-------+
| C_id   | varchar(3)  | NO   | PRI | NULL    |       |
| C_name | varchar(20) | YES  |     | NULL    |       |
+--------+-------------+------+-----+---------+-------+
2 rows in set (0.00 sec)
```

2. faculty_details:

The table faculty_details has been created with
attributes F_id of varchar(3), F_name of varchar(20) , F_age of int datatype, F_phno of varchar(10), F_email of varchar(40) with primary key F_id.

```
mysql> desc faculty_details;
+---------+-------------+------+-----+---------+-------+
| Field   | Type        | Null | Key | Default | Extra |
+---------+-------------+------+-----+---------+-------+
| F_id    | varchar(3)  | NO   | PRI | NULL    |       |
| F_name  | varchar(20) | YES  |     | NULL    |       |
| F_age   | int         | YES  |     | NULL    |       |
| F_phno  | varchar(10) | YES  |     | NULL    |       |
| F_email | varchar(40) | YES  |     | NULL    |       |
+---------+-------------+------+-----+---------+-------+
5 rows in set (0.00 sec)
```

3. stud_course:

The table stud_course has attributes S_id of datatype int, C_id with type varchar(3), F_id of type varchar(3) with S_id ,C_id and F_id as foreign key.

```
mysql> desc stud_course;
+-------+------------+------+-----+---------+-------+
| Field | Type       | Null | Key | Default | Extra |
+-------+------------+------+-----+---------+-------+
| S_id  | int        | YES  | MUL | NULL    |       |
| C_id  | varchar(3) | YES  | MUL | NULL    |       |
| F_id  | varchar(3) | YES  | MUL | NULL    |       |
+-------+------------+------+-----+---------+-------+
3 rows in set (0.00 sec)
```

4. faculty_course:

The table faculty_course contains attributes F_id of datatype varchar(3), C_id of type varchar(3) and no_stud of type int.

```
mysql> desc faculty_course;
+---------+------------+------+-----+---------+-------+
| Field   | Type       | Null | Key | Default | Extra |
+---------+------------+------+-----+---------+-------+
| F_id    | varchar(3) | YES  | MUL | NULL    |       |
| C_id    | varchar(3) | YES  | MUL | NULL    |       |
| no_stud | int        | YES  |     | NULL    |       |
+---------+------------+------+-----+---------+-------+
3 rows in set (0.00 sec)
```

5. stud_details:

This table contains attributes S_id of datatype int, S_name of varchar(20), S_age of type int, S_phno of varchar(10) and S_email of varchar(40) with S_id as a primary key.

```
mysql> desc stud_details;
+---------+------------+------+-----+---------+-------+
| Field   | Type       | Null | Key | Default | Extra |
+---------+------------+------+-----+---------+-------+
| S_id    | int        | NO   | PRI | NULL    |       |
| S_name  | varchar(20)| YES  |     | NULL    |       |
| S_age   | int        | YES  |     | NULL    |       |
| S_phno  | varchar(10)| YES  |     | NULL    |       |
| S_email | varchar(40)| YES  |     | NULL    |       |
+---------+------------+------+-----+---------+-------+
5 rows in set (0.00 sec)
```

DETAILS OF TABLES:

1. Course :

```
mysql> select * from course;
+------+--------------------+
| C_id | C_name             |
+------+--------------------+
| C01  | Computer Science   |
| C02  | Pharmacy           |
| C03  | Commerce           |
| C04  | Animation          |
| C05  | Mechanical         |
| C06  | Civil Engineering  |
| C07  | Architecture       |
| C08  | Psychology Hons    |
| C09  | Management         |
| C10  | Medicine Sciences  |
+------+--------------------+
10 rows in set (0.12 sec)
```

2. faculty_details :

```
mysql> select * from faculty_details;
+------+-----------------+-------+------------+---------------------------+
| F_id | F_name          | F_age | F_phno     | F_email                   |
+------+-----------------+-------+------------+---------------------------+
| 101  | Shekhar Singh   |    26 | 9874523614 | shekars@gmail.com         |
| 102  | Dhruv Chaudhary |    24 | 9877413264 | dhruvch67@gmail.com       |
| 103  | Ansh Kumar      |    30 | 9864275319 | anshkumar23@gmail.com     |
| 104  | Ankit Rao       |    29 | 9554326791 | ankitrao97@gmail.com      |
| 105  | Lalit Singh     |    32 | 9667548231 | lalitsingh32@gmail.com    |
| 106  | Himanshu Rawat  |    28 | 9467891246 | himanshu89@gmail.com      |
| 107  | Ishita Kumar    |    33 | 9456723168 | ishukumar48@gmail.com     |
| 108  | Surbhi Gupta    |    27 | 9564722344 | surbhigupta784@gmail.com  |
| 109  | Shreyas Sharma  |    25 | 8800456791 | shreyass894@gmail.com     |
| 110  | Siddharth Jain  |    29 | 877546241  | sidjain542@gmail.com      |
+------+-----------------+-------+------------+---------------------------+
10 rows in set (0.02 sec)
```

```
mysql> select * from stud_details;
+-------+----------+-------+------------+------------------------------+
| S_id  | S_name   | S_age | S_phno     | S_email                      |
+-------+----------+-------+------------+------------------------------+
| 1201  | Vanshika |    19 | 9494995677 | vans12@gmail.com             |
| 1202  | Keerti   |    18 | 9794035671 | keerti123@gmail.com          |
| 1203  | Aryan    |    20 | 8763193267 | Aryankk36@gmail.com          |
| 1204  | Jayathi  |    21 | 8366195467 | jayathimishra419@gmail.com   |
| 1205  | Samarth  |    22 | 8745195910 | samarthargs10@gmail.com      |
| 1206  | Dipanshu |    18 | 7455623918 | dipanshuii364@gmail.com      |
| 1207  | Ritu     |    20 | 8456723974 | ritupriya52@gmail.com        |
| 1208  | Riya     |    21 | 9992323821 | riyakumari121@gmail.com      |
| 1209  | Ankit    |    21 | 9992357800 | ankitboy77@gmail.com         |
| 1210  | Ram      |    20 | 9275357567 | tripathiram90@gmail.com      |
+-------+----------+-------+------------+------------------------------+
10 rows in set (0.11 sec)
```

```
mysql> select * from faculty_course;
+------+------+---------+
| F_id | C_id | no_stud |
+------+------+---------+
| 101  | C01  |      80 |
| 102  | C02  |      60 |
| 103  | C03  |      60 |
| 104  | C07  |      45 |
| 105  | C04  |      56 |
| 106  | C10  |      64 |
| 107  | C05  |      35 |
| 108  | C06  |      90 |
| 109  | C08  |      44 |
| 110  | C09  |      39 |
+------+------+---------+
10 rows in set (0.04 sec)
```

```
mysql> select * from stud_course;
+------+------+------+
| S_id | C_id | F_id |
+------+------+------+
| 1201 | C01  | 101  |
| 1202 | C05  | 107  |
| 1203 | C04  | 105  |
| 1204 | C10  | 106  |
| 1205 | C09  | 110  |
| 1206 | C02  | 102  |
| 1207 | C03  | 103  |
| 1208 | C06  | 108  |
| 1209 | C07  | 104  |
| 1210 | C08  | 109  |
+------+------+------+
10 rows in set (0.00 sec)
```
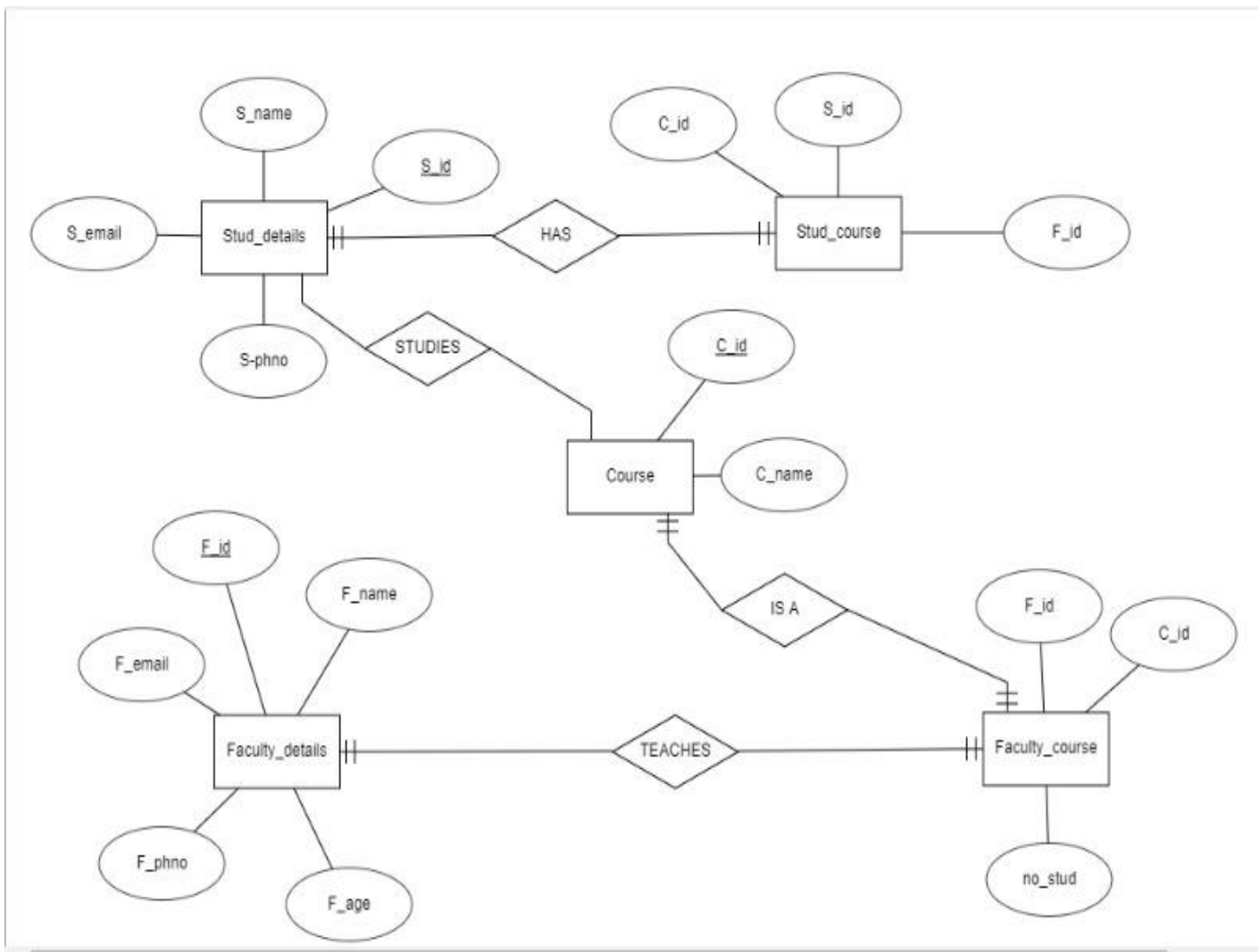
<p align="center" style="background-color:yellow; color:red;">QUERIES:</p>

Q1. Display faculty name who has maximum number of students:

```
mysql> select F_name,no_stud from faculty_details NATURAL JOIN faculty_course where no_stud = (select max(no_stud) from faculty_course);
+--------------+---------+
| F_name       | no_stud |
+--------------+---------+
| Surbhi Gupta |      90 |
+--------------+---------+
1 row in set (0.02 sec)
```

Q2. Display total number of students in the institute:

```
mysql> select sum(no_stud) from faculty_course;
+--------------+
| sum(no_stud) |
+--------------+
|          573 |
+--------------+
1 row in set (0.03 sec)
```

Q3.Display average faculty age:

```
mysql> select avg(F_age) from faculty_details;
+------------+
| avg(F_age) |
+------------+
|    28.3000 |
+------------+
1 row in set (0.00 sec)
```

Q4.Display faculty name who teaches the student with SAP ID 1201:

```
mysql> select S_name,F_name from stud_details,faculty_details where F_id = (select F_id from stud_course where S_id = 1201) and S_id = 1201;
+----------+--------------+
| S_name   | F_name       |
+----------+--------------+
| Vanshika | Shekhar Singh |
+----------+--------------+
1 row in set (0.00 sec)
```

Q5. Display student name with her course where SAP ID is 1204:

```
mysql> select S_name,C_name from stud_details NATURAL JOIN course where C_id = (select C_id from stud_course where S_id = 1204) and S_id = 1204;
+---------+-------------------+
| S_name  | C_name            |
+---------+-------------------+
| Jayathi | Medicine Sciences |
+---------+-------------------+
1 row in set (0.00 sec)
```

Q6. Display student name and phone number whose Email is keerti123@gmail.com:

```
mysql> select S_name,S_phno from stud_details where S_email = "keerti123@gmail.com";
+--------+------------+
| S_name | S_phno     |
+--------+------------+
| Keerti | 9794035671 |
+--------+------------+
1 row in set (0.00 sec)
```

Q7. Display course name of student with SAP ID 1210 :

```
mysql> select S_name ,C_name from Stud_details NATURAL JOIN course where C_id = (select c_id from stud_course where s_id = 1210) and S_id = 1210;
+--------+----------------+
| S_name | C_name         |
+--------+----------------+
| Ram    | Psychology Hons |
+--------+----------------+
1 row in set (0.00 sec)
```

Q8. Display all the faculty names with phone number 9667548231 or email ishukumar48@gmail.com:

```
mysql> select F_name from faculty_details where F_phno = "9667548231" or F_email = "ishukumar48@gmail.com";
+--------------+
| F_name       |
+--------------+
| Lalit Singh  |
| Ishita Kumar |
+--------------+
2 rows in set (0.00 sec)
```

Q9. Display student name, email and age of students who are of age 18, 19 and 20:

```
mysql> select S_name, S_email,S_age from stud_details where S_age between 18 and 20;
+----------+------------------------+-------+
| S_name   | S_email                | S_age |
+----------+------------------------+-------+
| Vanshika | vans12@gmail.com       |    19 |
| Keerti   | keerti123@gmail.com    |    18 |
| Aryan    | Aryankk36@gmail.com    |    20 |
| Dipanshu | dipanshuii364@gmail.com |   18 |
| Ritu     | ritupriya52@gmail.com  |    20 |
| Ram      | tripathiram90@gmail.com |   20 |
+----------+------------------------+-------+
6 rows in set (0.00 sec)
```

Q10. Display faculty and course name for faculty with ID 107:

```
mysql> select F_name ,C_name from faculty_details NATURAL JOIN course where C_id = (select c_id from faculty_course where F_id = 107) and F_id = 107;
+--------------+------------+
| F_name       | C_name     |
+--------------+------------+
| Ishita Kumar | Mechanical |
+--------------+------------+
1 row in set (0.00 sec)
```

CONCLUSION

We were able to make this project with the help of the learnings given by our teacher. We have successfully understood the topics and were able to write the code for this project.
It was a wonderful and learning experience for us while working on this project. The joy of working and the thrill involved while tackling the various problems and challenges helped us a lot. We enjoyed each and every bit of work we had put into this project.