# Laboratory 3

Title of the Laboratory Exercise: Database Design

1. Introduction and Purpose of Experiment

Students will design the database schema as per the ER diagram designed in the Laboratory 1 and 2.

1. Aim and Objectives

Aim

Objectives

At the end of this lab, the student will be able to

1. Experimental Procedure
2. Calculations/Computations/Algorithms

Creation of the database

DROP TABLE IF EXISTS PROJECT\_EXHIBITION;

DROP TABLE IF EXISTS EXHIBITION;

DROP TABLE IF EXISTS PROJECT\_STUDENT\_REGISTER;

DROP TABLE IF EXISTS PROJEKT;

DROP TABLE IF EXISTS STUDENT;

DROP TABLE IF EXISTS STUDENT\_LOGIN;

DROP TABLE IF EXISTS STAFF\_LOGIN;

CREATE TABLE STAFF\_LOGIN

(

    id INT(5) PRIMARY KEY AUTO\_INCREMENT,

    user\_name VARCHAR(20) UNIQUE KEY NOT NULL,

    hashed\_password CHAR(60) NOT NULL

);

CREATE TABLE STUDENT\_LOGIN

(

    id INT(5) PRIMARY KEY AUTO\_INCREMENT,

    user\_name VARCHAR(20) UNIQUE KEY NOT NULL,

    hashed\_password CHAR(60) NOT NULL

);

CREATE TABLE STUDENT

(

    id INT(5) UNIQUE KEY NOT NULL,

    reg\_no CHAR(12) PRIMARY KEY,

    name VARCHAR(30) NOT NULL,

    department ENUM('CSE', 'EEE', 'ECE', 'CIVIL'),

    course ENUM('B.Tech', 'M.Tech') NOT NULL,

    contact\_no VARCHAR(10) NOT NULL,

*FOREIGN KEY*(id) *REFERENCES* STUDENT\_LOGIN(id)

);

CREATE TABLE PROJEKT

(

    id INT(5) PRIMARY KEY AUTO\_INCREMENT,

    project\_leader\_regno CHAR(12) UNIQUE KEY NOT NULL,

    project\_name VARCHAR(100) UNIQUE KEY NOT NULL,

    mentor\_name VARCHAR(30) NOT NULL,

    department ENUM('CSE', 'EEE', 'ECE', 'CIVIL') NOT NULL,

    category VARCHAR(30) NOT NULL

);

CREATE TABLE PROJECT\_STUDENT\_REGISTER

(

    project\_id INT(5) NOT NULL,

    student\_reg\_no CHAR(12) NOT NULL,

*FOREIGN KEY*(project\_id) *REFERENCES* PROJEKT(id),

*FOREIGN KEY*(student\_reg\_no) *REFERENCES* STUDENT(reg\_no)

);

CREATE TABLE EXHIBITION

(

    room\_id INT(5) PRIMARY KEY AUTO\_INCREMENT,

    room\_name CHAR(20) UNIQUE KEY NOT NULL,

    capacity INT(5) NOT NULL

);

CREATE TABLE PROJECT\_EXHIBITION

(

    room\_id INT(5) NOT NULL,

    project\_id INT(5) UNIQUE KEY NOT NULL,

    table\_no INT(5) *CHECK* ( table\_no **>** 0 AND table\_no **<** ( SELECT **\*** FROM EXHIBITION WHERE EXHIBITION.*room\_id* **=** room\_id LIMIT 1 ) ),

*FOREIGN KEY*(room\_id) *REFERENCES* EXHIBITION(room\_id),

*FOREIGN KEY*(project\_id) *REFERENCES* PROJEKT(id)

);

Inserting data into the table

INSERT INTO `STUDENT\_LOGIN` (`id`, `user\_name`, `hashed\_password`) VALUES

(1, '17ETCS002159', '$2b$10$uVRx4ogFBi0owMljpvEilONnd9wWOMtrpgVwqw2Mw8.aNmo6yEU1u'),

(2, '17ETCS002122', '$2b$10$ATp9qxsPWBsOUXDAB1YvK.yTLi4GK1mzpIHBCfSOCQwtxLU/52Pk2'),

(3, '17ETCS002168', '$2b$10$3cfBMD3yRi3YJk.fFGrNY.Yx1RRonj4z2cqgOe2fgZ78yNaqRxFkC');

INSERT INTO `STUDENT` (`id`, `reg\_no`, `name`, `department`, `course`, `contact\_no`) VALUES

(2, '17ETCS002122', 'Prachi Poddar', 'CSE', 'B.Tech', '9856523658'),

(1, '17ETCS002159', 'Satyajit Ghana', 'CSE', 'B.Tech', '7892137665'),

(3, '17ETCS002168', 'Shikhar Singh', 'CSE', 'B.Tech', '9852145896');

INSERT INTO `PROJEKT` (`id`, `project\_leader\_regno`, `project\_name`, `mentor\_name`, `department`, `category`) VALUES

(2, '17ETCS002159', 'KrishiAI', 'Chaitra S', 'CSE', 'DL');

INSERT INTO `PROJECT\_STUDENT\_REGISTER` (`project\_id`, `student\_reg\_no`) VALUES

(2, '17ETCS002159'),

(2, '17ETCS002122'),

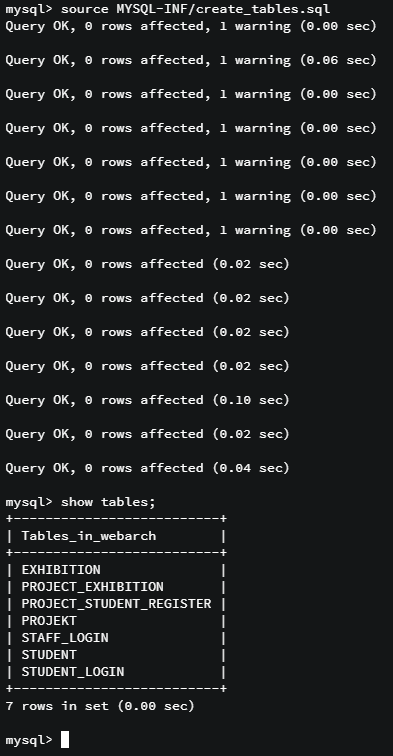
(2, '17ETCS002168');

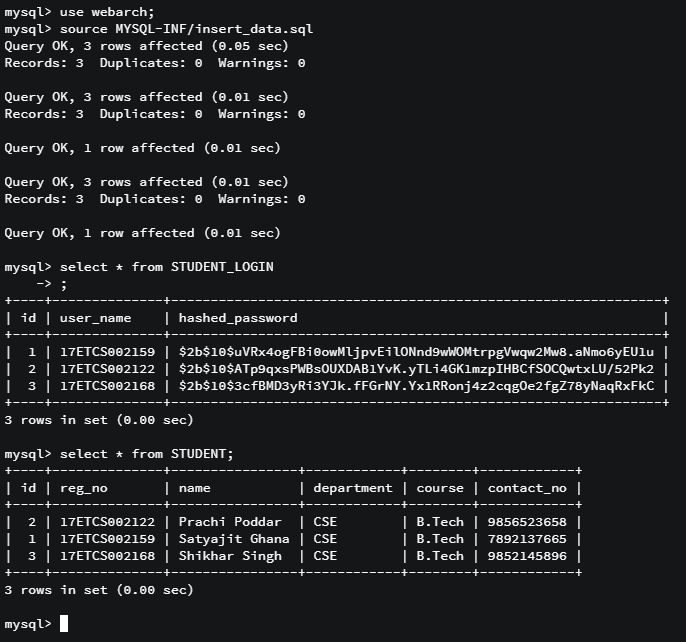
INSERT INTO `EXHIBITION` (`room\_id`, `room\_name`, `capacity`) VALUES

(1, 'A201', 60);

1. Presentation of Results

Now we run the create table sql file to create all the necessary tables with appropriate constraints.





1. Analysis and Discussions
2. Conclusions
3. Comments

a. Limitations of Experiments

b. Limitations of Results

c. Learning happened

d. Recommendations

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| --- | --- | --- |
| **Component** | **Max Marks** | **Marks Obtained** |
| **Viva** | **6** |  |
| **Results** | **7** |  |
| **Documentation** | **7** |  |
| **Total** | **20** |  |