



DBMS Project

Due Date: 15/03/2023

Guideline

- You need to submit the project report with a printed frontpage (this page), hand-written ER diagrams, sql query for table creation and printed copy of the screenshot of the tables.
- Any kind of plagiarism will lead to zero marks, even if two students having the same solution will lead zero for both.

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ROLL NUMBER: UCSE21061
PROJECT TITLE: Online Education System

ONLINE EDUCATION SYSTEM :

mysql> show databases;

```
MySQL 8.0 Command Line Client
Enter password: *****
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 20
Server version: 8.0.32 MySQL Community Server - GPL

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affiliates. Other names may be trademarks of their respective
owners.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

mysql> show databases;
+-----+
| Database |
+-----+
| information_schema |
| mysql      |
| performance_schema |
| sys        |
+-----+
4 rows in set (0.00 sec)

mysql>
```

mysql> create database online_education;

Query OK, 1 row affected (0.04 sec)

mysql> show databases;

```
mysql> create database online_education;
Query OK, 1 row affected (0.04 sec)

mysql> show databases;
+-----+
| Database |
+-----+
| information_schema |
| mysql      |
| online_education  |
| performance_schema |
| sys        |
+-----+
5 rows in set (0.00 sec)
```

TABLE 1- program:

```
mysql> use online_education;
```

Database changed

```
mysql> create table program(
```

```
-> program_id int,
```

```
-> program_name varchar(20),
```

```
-> courses_count int,
```

```
-> PRIMARY KEY (program_id)
```

```
-> );
```

Query OK, 0 rows affected (0.06 sec)

```
mysql> desc program;
```

```
mysql> desc program;
```

Field	Type	Null	Key	Default	Extra
program_id	int	NO	PRI	NULL	
program_name	varchar(20)	YES		NULL	
courses_count	int	YES		NULL	

```
3 rows in set (0.03 sec)
```

TABLE 2- student:

mysql> create table student(

-> student_id varchar(10) NOT NULL,

-> first_name varchar(12) NOT NULL,

-> last_name varchar(12) NOT NULL,

-> phone varchar(15) NOT NULL,

-> semester varchar(10) NOT NULL,

-> email varchar(50) NOT NULL,

-> password varchar(20) NOT NULL,

-> program_id int NOT NULL,

-> PRIMARY KEY(student_id),

-> FOREIGN KEY (program_id) REFERENCES program(program_id)

->);

Query OK, 0 rows affected (0.05 sec)

mysql> desc student;

```
mysql> desc student;
```

Field	Type	Null	Key	Default	Extra
student_id	varchar(10)	NO	PRI	NULL	
first_name	varchar(12)	NO		NULL	
last_name	varchar(12)	NO		NULL	
phone	varchar(15)	NO		NULL	
semester	varchar(10)	NO		NULL	
email	varchar(50)	NO		NULL	
password	varchar(20)	NO		NULL	
program_id	int	NO	MUL	NULL	

8 rows in set (0.00 sec)

TABLE 3- instructor:

```
mysql> create table instructor(  
    -> instructor_id varchar(10) NOT NULL,  
    -> first_name varchar(12) NOT NULL,  
    -> last_name varchar(12) NOT NULL,  
    -> phone varchar(15) NOT NULL,  
    -> semester varchar(10) NOT NULL,  
    -> email varchar(50) NOT NULL,  
    -> password varchar(20) NOT NULL,  
    -> experience int,  
    -> salary decimal(10,2),  
    -> PRIMARY KEY(instructor_id)  
    -> );
```

Query OK, 0 rows affected (0.04 sec)

```
mysql> desc instructor;
```

```
mysql> desc instructor;
```

Field	Type	Null	Key	Default	Extra
instructor_id	varchar(10)	NO	PRI	NULL	
first_name	varchar(12)	NO		NULL	
last_name	varchar(12)	NO		NULL	
phone	varchar(15)	NO		NULL	
semester	varchar(10)	NO		NULL	
email	varchar(50)	NO		NULL	
password	varchar(20)	NO		NULL	
experience	int	YES		NULL	
salary	decimal(10,2)	YES		NULL	

9 rows in set (0.00 sec)

TABLE 4- course:

mysql> create table course(

-> course_id int NOT NULL,

-> course_name varchar(50) NOT NULL,

-> prerequisite varchar(50) NOT NULL,

-> program_id int NOT NULL,

-> credit_hours int,

-> PRIMARY KEY(course_id),

-> FOREIGN KEY (program_id) REFERENCES program(program_id)

->);

Query OK, 0 rows affected (0.11 sec)

mysql> desc course;

```
mysql> desc course;
```

Field	Type	Null	Key	Default	Extra
course_id	int	NO	PRI	NULL	
course_name	varchar(50)	NO		NULL	
prerequisite	varchar(50)	NO		NULL	
program_id	int	NO	MUL	NULL	
credit_hours	int	YES		NULL	

5 rows in set (0.00 sec)

TABLE 5- student course registration:

```
mysql> create table student_course_registration(
```

```
-> course_id int NOT NULL,
```

```
-> student_id varchar(10) NOT NULL,
```

```
-> FOREIGN KEY(course_id) REFERENCES course(course_id),
```

```
-> FOREIGN KEY(student_id) REFERENCES student(student_id)
```

```
-> );
```

Query OK, 0 rows affected (0.05 sec)

```
mysql> desc student_course_registration;
```

```
mysql> desc student_course_registration;
+-----+-----+-----+-----+-----+-----+
| Field      | Type          | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| course_id  | int           | NO   | MUL | NULL    |       |
| student_id | varchar(10)   | NO   | MUL | NULL    |       |
+-----+-----+-----+-----+-----+-----+
2 rows in set (0.00 sec)
```

TABLE 6- examination:

```
mysql> create table examination(
```

```
-> exam_id int NOT NULL,
```

```
-> course_id int NOT NULL,
```

```
-> instructor_id varchar(10) NOT NULL,
```

```
-> exam_date date,
```

```
-> exam_type varchar(10),
```

```
-> PRIMARY KEY (exam_id),
```

```
-> FOREIGN KEY(instructor_id) REFERENCES instructor(instructor_id),
```

```
-> FOREIGN KEY(course_id) REFERENCES course(course_id)
```

```
-> );
```

Query OK, 0 rows affected (0.04 sec)

```
mysql> desc examination;
```

```
mysql> desc examination;
+-----+-----+-----+-----+-----+-----+
| Field          | Type          | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| exam_id        | int           | NO   | PRI | NULL    |       |
| course_id      | int           | NO   | MUL | NULL    |       |
| instructor_id  | varchar(10)   | NO   | MUL | NULL    |       |
| exam_date      | date          | YES  |     | NULL    |       |
| exam_type      | varchar(20)   | YES  |     | NULL    |       |
+-----+-----+-----+-----+-----+-----+
5 rows in set (0.00 sec)
```


TABLE 7- student_exam:

```
mysql> create table student_exam(
```

```
-> student_id varchar(10) NOT NULL,
```

```
-> exam_id int NOT NULL,
```

```
-> marks int NOT NULL,
```

```
-> FOREIGN KEY(student_id) REFERENCES student(student_id),
```

```
-> FOREIGN KEY(exam_id) REFERENCES examination(exam_id)
```

```
-> );
```

Query OK, 0 rows affected (0.05 sec)

```
mysql> desc student_exam;
```

Field	Type	Null	Key	Default	Extra
student_id	varchar(10)	NO	MUL	NULL	
exam_id	int	NO	MUL	NULL	
marks	int	NO		NULL	

3 rows in set (0.00 sec)

TABLE 8-study_material:

```
mysql> create table study_material(
```

```
-> material_id int NOT NULL,
```

```
-> course_id int NOT NULL,
```

```
-> instructor_id varchar(10) NOT NULL,
```

```
-> material_type varchar(50),
```

```
-> PRIMARY KEY(material_id),
```

```
-> FOREIGN KEY(course_id) REFERENCES course(course_id),
```

```
-> FOREIGN KEY(instructor_id) REFERENCES instructor(instructor_id)
```

```
-> );
```

Query OK, 0 rows affected (0.04 sec)

```
mysql> desc study_material;
```

Field	Type	Null	Key	Default	Extra
material_id	int	NO	PRI	NULL	
course_id	int	NO	MUL	NULL	
instructor_id	varchar(10)	NO	MUL	NULL	
material_type	varchar(20)	YES		NULL	

4 rows in set (0.00 sec)

TABLE 9- lecture:

```
mysql> create table lecture(
```

```
-> lecture_id int NOT NULL,
```

```
-> course_id int NOT NULL,
```

```
-> student_id varchar(10) NOT NULL,
```

```
-> instructor_id varchar(10) NOT NULL,
```

```
-> topic varchar(150),
```

```
-> PRIMARY KEY(lecture_id),
```

```
-> FOREIGN KEY(course_id) REFERENCES course(course_id),
```

```
-> FOREIGN KEY(student_id) REFERENCES student(student_id),
```

```
-> FOREIGN KEY(instructor_id) REFERENCES instructor(instructor_id)
```

```
-> );
```

Query OK, 0 rows affected (0.05 sec)

```
mysql> desc lecture;
```

Field	Type	Null	Key	Default	Extra
lecture_id	int	NO	PRI	NULL	
course_id	int	NO	MUL	NULL	
student_id	varchar(10)	NO	MUL	NULL	
instructor_id	varchar(10)	NO	MUL	NULL	
topic	varchar(150)	YES		NULL	

```
5 rows in set (0.00 sec)
```

TABLE 10- assignment:

```
mysql> create table assignment(  
    -> assignment_id int NOT NULL,  
    -> course_id int NOT NULL,  
    -> due_date date,  
    -> PRIMARY KEY(assignment_id),  
    -> FOREIGN KEY(course_id) REFERENCES course(course_id)  
    -> );
```

Query OK, 0 rows affected (0.06 sec)

```
mysql> desc assignment;  
+-----+-----+-----+-----+-----+-----+  
| Field          | Type | Null | Key | Default | Extra |  
+-----+-----+-----+-----+-----+-----+  
| assignment_id  | int  | NO   | PRI | NULL    |       |  
| course_id      | int  | NO   | MUL | NULL    |       |  
| due_date       | date | YES  |     | NULL    |       |  
+-----+-----+-----+-----+-----+-----+  
3 rows in set (0.00 sec)
```

TABLE 11-assignment_marks:

mysql> create table assignment_marks(

-> assignment_id int NOT NULL,

-> student_id varchar(10) NOT NULL,

-> total_marks int,

-> scored_marks int,

-> FOREIGN KEY(student_id) REFERENCES student(student_id),

-> FOREIGN KEY(assignment_id) REFERENCES assignment(assignment_id)

->);

Query OK, 0 rows affected (0.05 sec)

```
mysql> desc assignment_marks;
+-----+-----+-----+-----+-----+-----+
| Field          | Type          | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| assignment_id  | int           | NO   | MUL | NULL    |       |
| student_id     | varchar(10)   | NO   | MUL | NULL    |       |
| total_marks    | int           | YES  |     | NULL    |       |
| scored_marks   | int           | YES  |     | NULL    |       |
+-----+-----+-----+-----+-----+-----+
4 rows in set (0.00 sec)
```

INSERTING INTO TABLES:

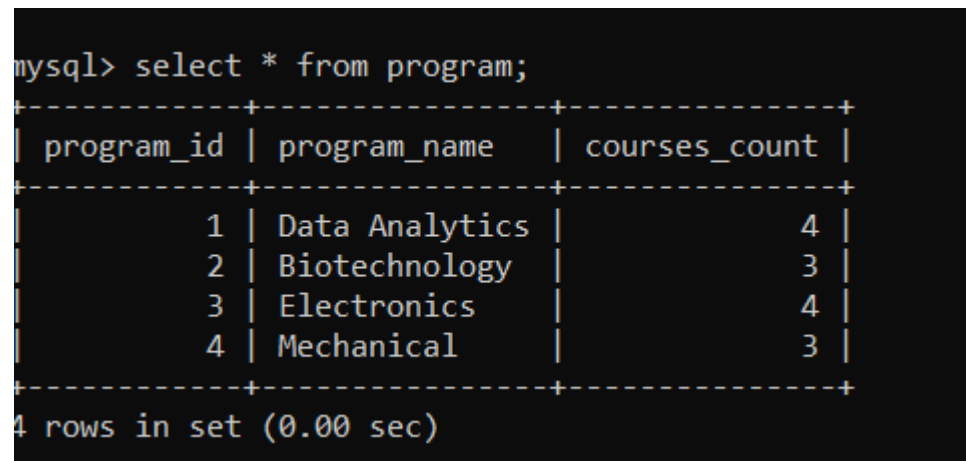
TABLE-1:

INSERT INTO program VALUES (001,'Data Analytics',4);

INSERT INTO program VALUES (002,'Biotechnology',3);

INSERT INTO program VALUES (003,'Electronics',4);

INSERT INTO program VALUES (004,'Mechanical',3);



```
mysql> select * from program;
```

program_id	program_name	courses_count
1	Data Analytics	4
2	Biotechnology	3
3	Electronics	4
4	Mechanical	3

4 rows in set (0.00 sec)

TABLE-2:

INSERT INTO student VALUES ('UCSE21001','Adam','Bright','+91-9771488667','4th sem','ucse21001@xstu.xim.edu.in','yuyop889',002);

INSERT INTO student VALUES ('UCSE20003','Nick','Thomas','+91-9771488997','5th sem','ucse21003@xstu.xim.edu.in','yytht809',003);

INSERT INTO student VALUES ('UCSE22017','Charles','Leclerc','+91-9771439667','2nd

```
sem','ucse21017@xstu.xim.edu.in','ertkn889',002);
```

```
INSERT INTO student VALUES ('UCSE21034','Louris','Bratt',+91-9771478907,'4th  
sem','ucse21034@xstu.xim.edu.in','iu9uo889',004);
```

```
INSERT INTO student VALUES ('UCSE19056','Smita','Paul',+91-9771588449,'8th  
sem','ucse21056@xstu.xim.edu.in','sd90y889',003);
```

```
INSERT INTO student VALUES ('UCSE21024','Om','Chaudhary',+91-9771388667,'4th  
sem','ucse21001@xstu.xim.edu.in','gh34ngjh',001);
```

```
INSERT INTO student VALUES ('UCSE21002','Alexa','Bliss',+91-9771768667,'3rd  
sem','ucse21001@xstu.xim.edu.in','esefc670',004);
```

```
INSERT INTO student VALUES ('UCSE22001','Andrew','Mathew',+91-9771489667,'5th  
sem','ucse21001@xstu.xim.edu.in','waewx568',003);
```

```
mysql> select * from student;
```

student_id	first_name	last_name	phone	semester	email	password	program_id
UCSE19056	Smita	Paul	+91-9771588449	8th sem	ucse21056@xstu.xim.edu.in	sd90y889	3
UCSE20003	Nick	Thomas	+91-9771488997	5th sem	ucse21003@xstu.xim.edu.in	yytht809	3
UCSE21001	Adam	Bright	+91-9771488667	4th sem	ucse21001@xstu.xim.edu.in	yuyop889	2
UCSE21002	Alexa	Bliss	+91-9771768667	3rd sem	ucse21001@xstu.xim.edu.in	esefc670	4
UCSE21024	Om	Chaudhary	+91-9771388667	4th sem	ucse21001@xstu.xim.edu.in	gh34ngjh	1
UCSE21034	Louris	Bratt	+91-9771478907	4th sem	ucse21034@xstu.xim.edu.in	iu9uo889	4
UCSE22001	Andrew	Mathew	+91-9771489667	5th sem	ucse21001@xstu.xim.edu.in	waewx568	3
UCSE22017	Charles	Leclerc	+91-9771439667	2nd sem	ucse21017@xstu.xim.edu.in	ertkn889	2

```
8 rows in set (0.00 sec)
```

TABLE-3:

```
INSERT INTO instructor VALUES ('T001','Scarlet','Wing',+91-9731988281,'2nd  
sem','scarlet1@xim.edu.in','not789r5u',4,50000);
```

```
INSERT INTO instructor VALUES  
('T002','Tom','Helson',+91-7712988281,'4thsem','tom2@xim.edu.in','trh099igf',1,37500);
```

INSERT INTO instructor VALUES ('T003','Rayon','Hash','+91-793198890','3rd sem','rayon3@xim.edu.in','53aeusi77',3,45000);

INSERT INTO instructor VALUES ('T004','Chin','Opo','+91-8788968289','8th sem','chin4@xim.edu.in','esgeshh8',5,55000);

```
mysql> select *from instructor;
```

instructor_id	first_name	last_name	phone	semester	email	password	experience	salary
T001	Scarlet	Wing	+91-9731988281	2nd sem	scarlet1@xim.edu.in	not789r5u	4	50000.00
T002	Tom	Helson	+91-7712988281	4thsem	tom2@xim.edu.in	trh099igf	1	37500.00
T003	Rayon	Hash	+91-793198890	3rd sem	rayon3@xim.edu.in	53aeusi77	3	45000.00
T004	Chin	Opo	+91-8788968289	8th sem	chin4@xim.edu.in	esgeshh8	5	55000.00

4 rows in set (0.00 sec)

TABLE-4:

INSERT INTO course VALUES (101,'Query Language','MySQL',001,10);

INSERT INTO course VALUES (102,'Data Visualization','Database Management',001,5);

INSERT INTO course VALUES (201,'Human Biology','Basic Anatomy',002,10);

INSERT INTO course VALUES (202,'Protein Science','Protein Synthesis',002,4);

INSERT INTO course VALUES (301,'Laboratory Digital Communication','Basic Electronics',003,20);

INSERT INTO course VALUES (303,'Electronic Devices and Circuits I','Basic Electronics',003,20);


```
INSERT INTO course VALUES (401,'Mechanism and Machine design','Kinematics and Dynamics',004,10);
```

```
mysql> select * from course;
```

course_id	course_name	prerequisite	program_id	credit_hours
101	Query Language	MySQL	1	10
102	Data Visualization	Database Management	1	5
201	Human Biology	Basic Anatomy	2	10
202	Protein Science	Protein Synthesis	2	4
301	Laboratory Digital Communication	Basic Electronics	3	20
303	Electronic Devices and Circuits I	Basic Electronics	3	20
401	Mechanism and Machine design	Kinematics and Dynamics	4	10

```
7 rows in set (0.00 sec)
```

TABLE-5:

```
INSERT INTO student_course_registration VALUES (101,'UCSE21001');
```

```
INSERT INTO student_course_registration VALUES (102,'UCSE20003');
```

```
INSERT INTO student_course_registration VALUES (201,'UCSE22017');
```

```
INSERT INTO student_course_registration VALUES (301,'UCSE21034');
```

```
INSERT INTO student_course_registration VALUES (301,'UCSE21024');
```

```
INSERT INTO student_course_registration VALUES (202,'UCSE22001');
```

```
INSERT INTO student_course_registration VALUES (401,'UCSE19056');
```

```
INSERT INTO student_course_registration VALUES (303,'UCSE21002');
```

```
mysql> select * from student_course_registration;
```

course_id	student_id
101	UCSE21001
102	UCSE20003
201	UCSE22017
301	UCSE21034
301	UCSE21024
202	UCSE22001
401	UCSE19056
303	UCSE21002

```
8 rows in set (0.00 sec)
```

TABLE-6:

INSERT INTO examination VALUES (1,101,'T004','2023-5-9','Quiz');

INSERT INTO examination VALUES (5,201,'T003','2023-5-18','Midsem');

INSERT INTO examination VALUES (7,303,'T001','2023-10-11','Endsem');

INSERT INTO examination VALUES (8,401,'T002','2023-7-3','Lab Test');

```
mysql> select * from examination;
+-----+-----+-----+-----+-----+
| exam_id | course_id | instructor_id | exam_date | exam_type |
+-----+-----+-----+-----+-----+
| 1 | 101 | T004 | 2023-05-09 | Quiz |
| 5 | 201 | T003 | 2023-05-18 | Midsem |
| 7 | 303 | T001 | 2023-10-11 | Endsem |
| 8 | 401 | T002 | 2023-07-03 | Lab Test |
+-----+-----+-----+-----+-----+
4 rows in set (0.00 sec)
```

TABLE-7:

INSERT INTO student_exam VALUES ('UCSE21001',1,99);

INSERT INTO student_exam VALUES ('UCSE22017',5,80);

INSERT INTO student_exam VALUES ('UCSE21002',7,79);

INSERT INTO student_exam VALUES ('UCSE19056',8,85);

```
mysql> select * from student_exam;
+-----+-----+-----+
| student_id | exam_id | marks |
+-----+-----+-----+
| UCSE21001 | 1 | 99 |
| UCSE22017 | 5 | 80 |
| UCSE21002 | 7 | 79 |
| UCSE19056 | 8 | 85 |
+-----+-----+-----+
4 rows in set (0.00 sec)
```

TABLE-8:

INSERT INTO study_material VALUES (1000,101,'T004','PPT');

INSERT INTO study_material VALUES (1001,102,'T004','Book pdf');

INSERT INTO study_material VALUES (5000,201,'T003','PPT');

INSERT INTO study_material VALUES (7000,301,'T001','PPTX');

INSERT INTO study_material VALUES (8000,401,'T002','PPT');

```
mysql> select * from study_material;
```

material_id	course_id	instructor_id	material_type
1000	101	T004	PPT
1001	102	T004	Book pdf
5000	201	T003	PPT
7000	301	T001	PPTX
8000	401	T002	PPT

5 rows in set (0.00 sec)

TABLE-9:

INSERT INTO lecture VALUES (1111,101,'UCSE21001','T004','Normalisation');

INSERT INTO lecture VALUES (1112,102,'UCSE20003','T004','Data Segregation');

INSERT INTO lecture VALUES (2222,201,'UCSE22017','T003','Human Body');

INSERT INTO lecture VALUES (3333,301,'UCSE21034','T001','Electronic circuit');

```
mysql> select * from lecture;
```

lecture_id	course_id	student_id	instructor_id	topic
1111	101	UCSE21001	T004	Normalisation
1112	102	UCSE20003	T004	Data Segregation
2222	201	UCSE22017	T003	Human Body
3333	301	UCSE21034	T001	Electronic circuit

4 rows in set (0.00 sec)

TABLE-10:

INSERT INTO assignment VALUES (0111,101,'2023-4-11');

INSERT INTO assignment VALUES (0222,201,'2023-4-15');

INSERT INTO assignment VALUES (0333,303,'2023-6-19');

```
mysql> select * from assignment;
```

assignment_id	course_id	due_date
111	101	2023-04-11
222	201	2023-04-15
333	303	2023-06-19

3 rows in set (0.00 sec)

TABLE-11:

INSERT INTO assignment_marks VALUES (0111,'UCSE21001',100, 95);

INSERT INTO assignment_marks VALUES (0222,'UCSE22017',100, 98);

INSERT INTO assignment_marks VALUES (0333,'UCSE21002',100, 99);

```
mysql> select * from assignment_marks;
```

assignment_id	student_id	total_marks	scored_marks
111	UCSE21001	100	95
222	UCSE22017	100	98
333	UCSE21002	100	99

```
3 rows in set (0.00 sec)
```