

1. Create the database named CYBERCOLLEGE and the above tables in the CYBERCOLLEGE database; include the Primary Key Constraint, Referential Integrity Constraints, and Check Constraints

```
Command Prompt - mysql -u root -p

C:\Users>cd..

C:\>mysql -u root -p
'mysql' is not recognized as an internal or external command,
operable program or batch file.

C:\>cd C:\Program Files\MySQL\MySQL Server 8.0\bin

C:\Program Files\MySQL\MySQL Server 8.0\bin>mysql -u root -p
Enter password: *****
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 14
Server version: 8.0.25 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> use cybercollege;
ERROR 1049 (42000): Unknown database 'cybercollege'
mysql> create database cybercollege;
Query OK, 1 row affected (0.01 sec)

mysql>
```

```
mysql> desc student;
+-----+-----+-----+-----+-----+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| stud_no | varchar(10) | NO | PRI | NULL | |
| stud_lname | varchar(30) | YES | | NULL | |
| stud_fname | varchar(20) | YES | | NULL | |
| stud_address | varchar(50) | YES | | NULL | |
| stud_city | varchar(20) | YES | | NULL | |
| state | varchar(10) | YES | | NULL | |
| post | varchar(10) | YES | | NULL | |
+-----+-----+-----+-----+-----+-----+
7 rows in set (0.03 sec)

mysql> desc instructor;
+-----+-----+-----+-----+-----+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| instructor_id | varchar(10) | NO | PRI | NULL | |
| instructor_lname | varchar(20) | YES | | NULL | |
| instructor_fname | varchar(20) | YES | | NULL | |
| instructor_phone | varchar(10) | YES | | NULL | |
+-----+-----+-----+-----+-----+-----+
4 rows in set (0.00 sec)
```

```
Command Prompt - mysql -u root -p

mysql>
mysql> desc course;
+-----+-----+-----+-----+-----+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| course_code | varchar(10) | NO | PRI | NULL | |
| course_title | varchar(20) | YES | | NULL | |
| course_hour | decimal(2,0) | YES | | NULL | |
| semester | varchar(20) | YES | | NULL | |
+-----+-----+-----+-----+-----+-----+
4 rows in set (0.00 sec)

mysql>
```

```
mysql> create table section(section_id int,time_offerd varchar(10),days_offerd varchar(10),section_room varchar(10),class_size decimal(3,0),instructor_id varchar(10),course_code varchar(10),PRIMARY KEY (section_id),constraint section foreign key (instructor_id)references instructor(instructor_id),constraint section1 foreign key (course_code) references course(course_code));
Query OK, 0 rows affected (0.06 sec)

mysql> alter table section add check (class_size>=0);
Query OK, 0 rows affected (0.11 sec)
Records: 0 Duplicates: 0 Warnings: 0

mysql> alter table add constraint number_enroll check (number_enroll>=0);
ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that corresponds to your MySQL server version for the right syntax to use near 'add constraint nu
number_enroll check (number_enroll>=0)' at line 1
mysql> alter table add constraint number_enroll varchar(10);
ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that corresponds to your MySQL server version for the right syntax to use near 'add constraint nu
number_enroll varchar(10)' at line 1
mysql> alter table add number_enroll varchar(10);
ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that corresponds to your MySQL server version for the right syntax to use near 'add number_enrol
l varchar(10)' at line 1
mysql> alter table section add coloumn number_enrolled varchar(10);
ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that corresponds to your MySQL server version for the right syntax to use near 'number_enrolled v
archar(10)' at line 1
mysql> alter table section add number_enrolled varchar(10);
Query OK, 0 rows affected (0.02 sec)
Records: 0 Duplicates: 0 Warnings: 0

mysql> desc section;
+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+
| section_id | int | NO | PRI | NULL | |
| time_offerd | varchar(10) | YES | | NULL | |
| days_offerd | varchar(10) | YES | | NULL | |
| section_room | varchar(10) | YES | | NULL | |
| class_size | decimal(3,0) | YES | | NULL | |
| instructor_id | varchar(10) | YES | MUL | NULL | |
| course_code | varchar(10) | YES | MUL | NULL | |
| number_enrolled | varchar(10) | YES | | NULL | |
+-----+
8 rows in set (0.01 sec)

mysql>
```

2. Add a field Country to the STUDENT table with the default value set to 'India'.

```
mysql> desc student;
+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+
| stud_no | varchar(10) | NO | PRI | NULL | |
| stud_lname | varchar(30) | YES | | NULL | |
| stud_fname | varchar(20) | YES | | NULL | |
| stud_address | varchar(50) | YES | | NULL | |
| stud_city | varchar(20) | YES | | NULL | |
| state | varchar(10) | YES | | NULL | |
| post | varchar(10) | YES | | NULL | |
+-----+
7 rows in set (0.00 sec)

mysql> alter table student add country varchar(20) set deaefault "india" ;
ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that corresponds to your MySQL server version for the right syntax to use near 'set deaefault "ind
ia"' at line 1
mysql> alter table student add country varchar(20) default "india" ;
Query OK, 0 rows affected (0.05 sec)
Records: 0 Duplicates: 0 Warnings: 0

mysql> desc student;
+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+
| stud_no | varchar(10) | NO | PRI | NULL | |
| stud_lname | varchar(30) | YES | | NULL | |
| stud_fname | varchar(20) | YES | | NULL | |
| stud_address | varchar(50) | YES | | NULL | |
| stud_city | varchar(20) | YES | | NULL | |
| state | varchar(10) | YES | | NULL | |
| post | varchar(10) | YES | | NULL | |
| country | varchar(20) | YES | | india | |
+-----+
8 rows in set (0.00 sec)

mysql>
```

3. Add a constraint to the Grade field in the ENROLMENT table that accepts only the values A,B,C, and 'D'.

```
Command Prompt - mysql -u root -p
mysql>
mysql> alter table student add country varchar (20) default "india";
Query OK, 0 rows affected (0.03 sec)
Records: 0 Duplicates: 0 Warnings: 0

mysql> desc student;
+-----+-----+-----+-----+-----+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| stud_no | varchar(10) | NO | PRI | NULL | |
| stud_lname | varchar(30) | YES | | NULL | |
| stud_fname | varchar(20) | YES | | NULL | |
| stud_address | varchar(50) | YES | | NULL | |
| stud_city | varchar(20) | YES | | NULL | |
| state | varchar(10) | YES | | NULL | |
| post | varchar(10) | YES | | NULL | |
| country | varchar(20) | YES | | NULL | india |
+-----+-----+-----+-----+-----+-----+
8 rows in set (0.01 sec)

mysql> ALTER TABLE enrollment ADD CONSTRAINT grade CHECK(grade IN("A","B","C"));
Query OK, 0 rows affected (0.09 sec)
Records: 0 Duplicates: 0 Warnings: 0

mysql>
```

4. Modify the ENROLMENT table by changing the width of the field Grade to 2

```
Command Prompt - mysql -u root -p
mysql>
mysql> alter table student add country varchar (20) default "india";
Query OK, 0 rows affected (0.03 sec)
Records: 0 Duplicates: 0 Warnings: 0

mysql> desc student;
+-----+-----+-----+-----+-----+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| stud_no | varchar(10) | NO | PRI | NULL | |
| stud_lname | varchar(30) | YES | | NULL | |
| stud_fname | varchar(20) | YES | | NULL | |
| stud_address | varchar(50) | YES | | NULL | |
| stud_city | varchar(20) | YES | | NULL | |
| state | varchar(10) | YES | | NULL | |
| post | varchar(10) | YES | | NULL | |
| country | varchar(20) | YES | | NULL | india |
+-----+-----+-----+-----+-----+-----+
8 rows in set (0.01 sec)

mysql> ALTER TABLE enrollment ADD CONSTRAINT grade CHECK(grade IN("A","B","C"));
Query OK, 0 rows affected (0.09 sec)
Records: 0 Duplicates: 0 Warnings: 0

mysql> ALTER TABLE enrollment MODIFY grade varchar(2);
ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that corresponds to your MySQL server version for the right syntax to use near 'TABLE MODIFY grade varchar(2)' at line 1
mysql> ALTER TABLE enrollment MODIFY grade varchar(2);
ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that corresponds to your MySQL server version for the right syntax to use near 'TABLE enrollment MODIFY grade varchar(2)' at line 1
mysql> ALTER TABLE enrollment MODIFY grade varchar(2);
Query OK, 0 rows affected (0.01 sec)
Records: 0 Duplicates: 0 Warnings: 0

mysql>
```

5. Add a new column, salary to the INSTRUCTOR table and display its modified schema

```
Command Prompt - mysql -u root -p
mysql> MODIFY grade varchar(2) ' at line 1
mysql> ALTER TABLE enrollment MODIFY grade varchar(2);
Query OK, 0 rows affected (0.01 sec)
Records: 0 Duplicates: 0 Warnings: 0

mysql> desc instructor;
+-----+-----+-----+-----+-----+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| instructor_id | varchar(10) | NO | PRI | NULL | |
| instructor_lname | varchar(20) | YES | | NULL | |
| instructor_fname | varchar(20) | YES | | NULL | |
| instructor_phone | varchar(10) | YES | | NULL | |
| salary | int | YES | | NULL | |
+-----+-----+-----+-----+-----+-----+
5 rows in set (0.01 sec)

mysql> alter table instructor drop coloumn salary;
ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that corresponds to your MySQL server version for the right syntax to use near 'salary' at line 1

mysql> alter table instructor drop column salary;
Query OK, 0 rows affected (0.06 sec)
Records: 0 Duplicates: 0 Warnings: 0

mysql> alter table instructor add salary varchar(10);
Query OK, 0 rows affected (0.03 sec)
Records: 0 Duplicates: 0 Warnings: 0

mysql> desc instructor;
+-----+-----+-----+-----+-----+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| instructor_id | varchar(10) | NO | PRI | NULL | |
| instructor_lname | varchar(20) | YES | | NULL | |
| instructor_fname | varchar(20) | YES | | NULL | |
| instructor_phone | varchar(10) | YES | | NULL | |
| salary | varchar(10) | YES | | NULL | |
+-----+-----+-----+-----+-----+-----+
5 rows in set (0.01 sec)

mysql>
```

6. Drop the column Country from the STUDENT table.

```
Command Prompt - mysql -u root -p

mysql> desc student;
+-----+-----+-----+-----+-----+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| stud_no | varchar(10) | NO | PRI | NULL | |
| stud_lname | varchar(30) | YES | | NULL | |
| stud_fname | varchar(20) | YES | | NULL | |
| stud_address | varchar(50) | YES | | NULL | |
| stud_city | varchar(20) | YES | | NULL | |
| state | varchar(10) | YES | | NULL | |
| post | varchar(10) | YES | | NULL | |
| country | varchar(20) | YES | | NULL | |
+-----+-----+-----+-----+-----+-----+
8 rows in set (0.00 sec)

mysql> alter table student drop coloumn country;
ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that corresponds to your MySQL server version for the right syntax to use near 'country' at line 1

mysql> alter table student drop column country;
Query OK, 0 rows affected (0.09 sec)
Records: 0 Duplicates: 0 Warnings: 0

mysql> desc student;
+-----+-----+-----+-----+-----+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| stud_no | varchar(10) | NO | PRI | NULL | |
| stud_lname | varchar(30) | YES | | NULL | |
| stud_fname | varchar(20) | YES | | NULL | |
| stud_address | varchar(50) | YES | | NULL | |
| stud_city | varchar(20) | YES | | NULL | |
| state | varchar(10) | YES | | NULL | |
| post | varchar(10) | YES | | NULL | |
+-----+-----+-----+-----+-----+-----+
7 rows in set (0.01 sec)

mysql>
```

7. Create a view for instructors to display the courses taught by an instructor. Display the personal details but by hiding salary information.

```

Command Prompt - mysql -u root -p
+----+-----+-----+-----+-----+
| instructor_id | varchar(10) | NO | PRI | NULL |
| instructor_lname | varchar(20) | YES | | NULL |
| instructor_fname | varchar(20) | YES | | NULL |
| instructor_phone | varchar(10) | YES | | NULL |
| salary | varchar(10) | YES | | NULL |
+----+-----+-----+-----+
5 rows in set (0.01 sec)

mysql> create view v1 as select instructor_id,instructor_fname,instructor_fname,instructor_phone from instructor;
ERROR 1054 (42S22): Unknown column 'instructor_fname' in 'field list'
mysql> create view v1 as select instructor_id,instructor_fmae,instructor_fname,instructor_phone from instructor;
ERROR 1054 (42S22): Unknown column 'instructor_fmae' in 'field list'
mysql> create view v1 as select instructor_id,instructor_fmae,instructor_lname,instructor_phone from instructor;
Query OK, 0 rows affected (0.02 sec)

mysql>

```

8. Insert details of you and your 5 friends in STUDENT table and the details of 5 instructors with names (Asha, Ashna, Sandeep, Asifa, George) in INSTRUCTOR table

```

Command Prompt - mysql -u root -p
Query OK, 1 row affected (0.01 sec)

mysql> select * from student;
+----+-----+-----+-----+-----+-----+-----+
| stud_no | stud_lname | stud_fname | stud_address | stud_city | state | post |
+----+-----+-----+-----+-----+-----+-----+
| 1 | valavi | joseph | valavi house | ekm | kerala | 682028 |
| 2 | paul | arun | vj | ekm | kerala | 684508 |
| 3 | paul | joe | polo | trissur | kerala | 68508 |
| 4 | paul | joel | spolo | trissur | kerala | 68538 |
| 5 | pasl | noel | spolo | ekm | kerala | 62538 |
+----+-----+-----+-----+-----+-----+-----+
5 rows in set (0.00 sec)

mysql> insert into instructor values ("1","1","asha","98787596242",25000);insert into instructor values ("2","g","ashna","701288132",20000);insert into instructor values ("3","s","sandeep","97987542",35000);insert into instructor values ("4","o","asifa","3333396242",1000);insert into instructor values ("5","d","george","987334342",45000);
ERROR 1406 (22001): Data too long for column 'instructor_phone' at row 1
Query OK, 1 row affected (0.00 sec)

Query OK, 1 row affected (0.00 sec)

Query OK, 1 row affected (0.00 sec)

Query OK, 1 row affected (0.00 sec)

mysql> select * from instructor;
+----+-----+-----+-----+-----+
| instructor_id | instructor_lname | instructor_fname | instructor_phone | salary |
+----+-----+-----+-----+-----+
| 2 | g | ashna | 701288132 | 20000 |
| 3 | s | sandeep | 97987542 | 35000 |
| 4 | o | asifa | 3333396242 | 1000 |
| 5 | d | george | 987334342 | 45000 |
+----+-----+-----+-----+-----+
4 rows in set (0.00 sec)

mysql>

```

9. Add details of the first and second semester courses. Also add a new course for Data Mining with a course code of 20MCA260 worth with credit of 4 hours

```

C:\> Command Prompt - mysql -u root -p
Query OK, 1 row affected (0.01 sec)

mysql> insert into course values ("mca20102","maths",4,1);
Query OK, 1 row affected (0.01 sec)

mysql> insert into course values ("mca20103","ads",4,1);
Query OK, 1 row affected (0.00 sec)

mysql> insert into course values ("mca20103","ase",4,1);
ERROR 1062 (23000): Duplicate entry 'mca20103' for key 'course.PRIMARY'
mysql> insert into course values ("mca20104","ase",4,1);
Query OK, 1 row affected (0.01 sec)

mysql> insert into course values ("mca20260","data minig",4,1);
Query OK, 1 row affected (0.01 sec)

mysql> insert into course values ("mca20201","adbms",4,1);
Query OK, 1 row affected (0.00 sec)

mysql> insert into course values ("mca20202","acn",4,1);
Query OK, 1 row affected (0.01 sec)

mysql> insert into course values ("mca20203","ai",4,1);
Query OK, 1 row affected (0.01 sec)

mysql> insert into course values ("mca20203","aos",3,1);
ERROR 1062 (23000): Duplicate entry 'mca20203' for key 'course.PRIMARY'
mysql> select * from course;
+-----+-----+-----+-----+
| course_code | course_title | course_hour | semester |
+-----+-----+-----+-----+
| mca20101    | digital      | 4           | 1         |
| mca20102    | maths        | 4           | 1         |
| mca20103    | ads          | 4           | 1         |
| mca20104    | ase          | 4           | 1         |
| mca20201    | adbms        | 4           | 1         |
| mca20202    | acn          | 4           | 1         |
| mca20203    | ai           | 4           | 1         |
| mca20260    | data minig   | 4           | 1         |
+-----+-----+-----+-----+
8 rows in set (0.00 sec)

```

10. Add a new section for this new course with section ID as 301. The section should meet in 2-4 on MW in BLGNG102. The class size should be 35, and number enrolled should be 0. The instructor should be 3, and the course is 20MCA260. Also add sections 302 and 303 for the courses AOS and OB and enrol 5 students each to these course.

```

MySQL 5.5 Command Line Client
+-----+-----+-----+-----+
| section_id | int(11) | NO | PRI | NULL |
| time_offered | varchar(10) | YES | NULL |
| day_offered | varchar(10) | YES | NULL |
| section_room | varchar(8) | YES | NULL |
| class_size | int(3) | YES | NULL |
| number_enrolled | int(3) | YES | NULL |
| inst_id | varchar(5) | YES | NULL |
| course_code | varchar(6) | YES | NULL |
+-----+-----+-----+-----+
0 rows in set (0.18 sec)

mysql> insert into section values(301,2-4,'MW','BLGNG102',35,0,3,'20MCA260');
ERROR 1406 (22001): Data too long for column 'course_code' at row 1
mysql> alter table SECTION modify course_code varchar(10);
Query OK, 0 rows affected (0.21 sec)
Records: 0 Duplicates: 0 Warnings: 0

mysql> insert into section values(301,2-4,'MW','BLGNG102',35,0,3,'20MCA260');
Query OK, 1 row affected (0.01 sec)

mysql> insert into section values(302,2,'MW','BLGNG102',35,5,201,'20MCA203');
Query OK, 1 row affected (0.01 sec)

mysql> insert into section values(303,2,'MW','BLGNG102',35,5,202,'20MCA204');
Query OK, 1 row affected (0.01 sec)

mysql> select* from section;
+-----+-----+-----+-----+-----+-----+-----+
| section_id | time_offered | day_offered | section_room | class_size | number_enrolled | inst_id | course_code |
+-----+-----+-----+-----+-----+-----+-----+
| 301        | 2-4          | MW          | BLGNG102     | 35         | 0               | 3       | 20MCA260    |
| 302        | 2            | MW          | BLGNG102     | 35         | 5               | 201     | 20MCA203    |
| 303        | 2            | MW          | BLGNG102     | 35         | 5               | 202     | 20MCA204    |
+-----+-----+-----+-----+-----+-----+
3 rows in set (0.00 sec)

mysql> update section set time_offered=2-4 where section_id=301;
Query OK, 1 row affected (0.07 sec)
Rows matched: 1 Changed: 1 Warnings: 0

mysql> select* from section;
+-----+-----+-----+-----+-----+-----+-----+
| section_id | time_offered | day_offered | section_room | class_size | number_enrolled | inst_id | course_code |
+-----+-----+-----+-----+-----+-----+-----+
| 301        | 2-4          | MW          | BLGNG102     | 35         | 0               | 3       | 20MCA260    |
| 302        | 2            | MW          | BLGNG102     | 35         | 5               | 201     | 20MCA203    |
| 303        | 2            | MW          | BLGNG102     | 35         | 5               | 202     | 20MCA204    |
+-----+-----+-----+-----+-----+-----+
3 rows in set (0.00 sec)

```

11. Register yourself along with your 3 friends for this new course by adding a row to the ENROLMENT table. The grade should be null.

```

Command Prompt - mysql -u root -p

+-----+
| Field | Type      | Null | Key | Default | Extra |
+-----+
| stud_no | varchar(10) | YES  |     | NULL    |       |
| section_id | int      | YES  |     | NULL    |       |
| grade   | varchar(2)  | YES  |     | NULL    |       |
+-----+
3 rows in set (0.01 sec)

mysql> insert into enrollment values ("1","blgn102","");
">
">
"> insert into enrollment values ("1","blgn102","");
ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that corresponds to your MySQL server version for the right syntax to use near '1','blgn102','')'
at line 4
mysql> insert into enrollment values ("1",2,"");
ERROR 3819 (HY000): Check constraint 'grade' is violated.
mysql> insert into enrollment values ("1",2," ");
ERROR 3819 (HY000): Check constraint 'grade' is violated.
mysql> insert into enrollment values ("1",2,null);
Query OK, 1 row affected (0.01 sec)

mysql> insert into enrollment values ("3",2,null);
Query OK, 1 row affected (0.01 sec)

mysql> insert into enrollment values ("5",2,null);
Query OK, 1 row affected (0.00 sec)

mysql> select * from enrollment;
+-----+
| stud_no | section_id | grade |
+-----+
| 1       | 2          | NULL  |
| 3       | 2          | NULL  |
| 5       | 2          | NULL  |
+-----+
3 rows in set (0.00 sec)

mysql>

```

12. Update the 301 section, and increase the class sizes by 10%.

```

MySQL 8.0 Command Line Client

mysql> use cybercollege
Database changed
mysql> select * from section;
+-----+
| section_id | time_offerd | days_offered | section_room | class_size | number_enrolled | instructor_id | course_code |
+-----+
| 100       | 4          | m,w,th       | 600          | 35         | 10              | 1             | mca01       |
| 101       | 4          | m,tue,th     | 602          | 30         | 8               | 2             | mca03       |
| 301       | 4          | m,w          | 6            | 35         | 0               | 3             | mca260      |
| 302       | 4          | m,w,f        | 5            | 45         | 25              | 4             | 20mca10     |
| 303       | 4          | m,w,f        | 15           | 40         | 30              | 5             | 20mca15     |
+-----+
5 rows in set (0.00 sec)

mysql> UPDATE section SET class_size=class_size * 1.1 WHERE section_id=301;
Query OK, 1 row affected, 1 warning (0.01 sec)
Rows matched: 1 Changed: 1 Warnings: 1

mysql> select * from section;
+-----+
| section_id | time_offerd | days_offered | section_room | class_size | number_enrolled | instructor_id | course_code |
+-----+
| 100       | 4          | m,w,th       | 600          | 35         | 10              | 1             | mca01       |
| 101       | 4          | m,tue,th     | 602          | 30         | 8               | 2             | mca03       |
| 301       | 4          | m,w          | 6            | 39         | 0               | 3             | mca260      |
| 302       | 4          | m,w,f        | 5            | 45         | 25              | 4             | 20mca10     |
| 303       | 4          | m,w,f        | 15           | 40         | 30              | 5             | 20mca15     |
+-----+
5 rows in set (0.00 sec)

mysql>

```


15. Undo the previous delete operation

```
MySQL 8.0 Command Line Client
mysql> mysql rollback;
ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that corresponds to your MySQL server version for the right syntax to use near 'mysql rollback' a
t line 1
mysql> rollback;
Query OK, 0 rows affected (0.00 sec)

mysql>
```

16. Save all the transactions to the database.

```
Query OK, 0 rows affected (0.00 sec)

mysql> commit;
Query OK, 0 rows affected (0.00 sec)

mysql>
```

17. Grant the privilege to read and delete from the ENROLMENT table to the User U1.

```
MySQL 8.0 Command Line Client
mysql> create user "u1" identified by "123";
Query OK, 0 rows affected (0.06 sec)

mysql> select user from mysql.user;
+-----+
| user |
+-----+
| u1    |
| mysql.infoschema |
| mysql.session    |
| mysql.sys        |
| root             |
+-----+
5 rows in set (0.00 sec)

mysql> GRANT select, delete on enrollment to u1;
ERROR 3619 (HY000): Illegal privilege level specified for enrollment
mysql> GRANT select, delete on enrollment to u1;
Query OK, 0 rows affected (0.01 sec)

mysql> SHOW grants for u1;
+-----+
| Grants for u1@% |
+-----+
| GRANT USAGE ON *.* TO 'u1'@'%' |
| GRANT SELECT, DELETE ON `cybercollege`.`enrollment` TO 'u1'@'%' |
+-----+
2 rows in set (0.00 sec)

mysql>
```

18. Revoke the delete privilege from U1

```
MySQL 8.0 Command Line Client
mysql> REVOKE delete on enrollment from u1;
ERROR 1046 (3D000): No database selected
mysql> use cybercollege;
Database changed
mysql> REVOKE delete on enrollment from u1;
Query OK, 0 rows affected (0.01 sec)

mysql> show grants for u1;
+-----+
| Grants for u1@% |
+-----+
| GRANT USAGE ON *.* TO `u1`@`%` |
| GRANT SELECT ON `cybercollege`.`enrollment` TO `u1`@`%` |
+-----+
2 rows in set (0.00 sec)

mysql>
```

19. Display the full name and contact details of students living in Kochi.

```
MySQL 8.0 Command Line Client
Database changed
mysql> select * from student;
+-----+
| stud_no | stud_lname | stud_fname | stud_address | stud_city | state | postalcode |
+-----+
| 1       | valavi j   | joseph     | valavi (H),ekm | ekm       | kerala | 682028     |
| 2       | roy        | rahul      | ollur         | tsr       | kerala | 68567      |
| 3       | gopi       | praveen    | ollur         | tsr       | kerala | 68568      |
| 4       | joseph    | midhul     | vennala       | ekm       | kerala | 68345      |
| 5       | valavi     | polo       | ernakulam     | cochin    | kerala | 6820218    |
+-----+
5 rows in set (0.03 sec)

mysql> select stud_fname,stud_lname,stud_address,stud_city WHERE stud_city="cochin";
ERROR 1054 (42S22): Unknown column 'stud_fname' in 'field list'
mysql> select stud_fname,stud_lname,stud_address,stud_city FROM student WHERE stud_city="cochin";
+-----+
| stud_fname | stud_lname | stud_address | stud_city |
+-----+
| polo       | valavi     | ernakulam    | cochin    |
+-----+
1 row in set (0.00 sec)

mysql>
```

20. List the student details who has longest first name

```
Command Prompt - mysql -u root -p
5 rows in set (0.00 sec)

mysql> select * from student where length(stud_fname)=(select max(length(stud_fname)) from student);
+-----+-----+-----+-----+-----+-----+
| stud_no | stud_lname | stud_fname | stud_address | stud_city | state | post |
+-----+-----+-----+-----+-----+-----+
| 1       | valavi     | joseph     | valavi house | ekm       | kerala | 682028 |
+-----+-----+-----+-----+-----+-----+
1 row in set (0.00 sec)

mysql>
```

21. Display the name and phone number of the instructors who is handling the courses AOS and ADBMS.

```
MySQL 8.0 Command Line Client

mysql> select instructor_fname, instructor_phone from instructor i join course c join section s where i.instructor_id=s.instructor_id and s.course_code and c.course_title='AOS' or 'ADBMS';
+-----+-----+
| instructor_fname | instructor_phone |
+-----+-----+
| Ashna           | 98798909        |
+-----+-----+
1 row in set, 3 warnings (0.00 sec)

mysql>
```

22. List the codes, titles, and credit hours for courses worth 4 hours. Order the results in descending order of course code.

```
Command Prompt - mysql -u root -p
mysql> select course_code,course_title,course_hour FROM course WHERE course_hour=4 ORDER BY course_code desc;
+-----+-----+-----+
| course_code | course_title | course_hour |
+-----+-----+-----+
| mca20260    | data minig   | 4           |
| mca20203    | ai           | 4           |
| mca20202    | acn          | 4           |
| mca20201    | adms         | 4           |
| mca20104    | ase          | 4           |
| mca20103    | ads          | 4           |
| mca20102    | maths        | 4           |
| mca20101    | digital      | 4           |
+-----+-----+-----+
8 rows in set (0.02 sec)

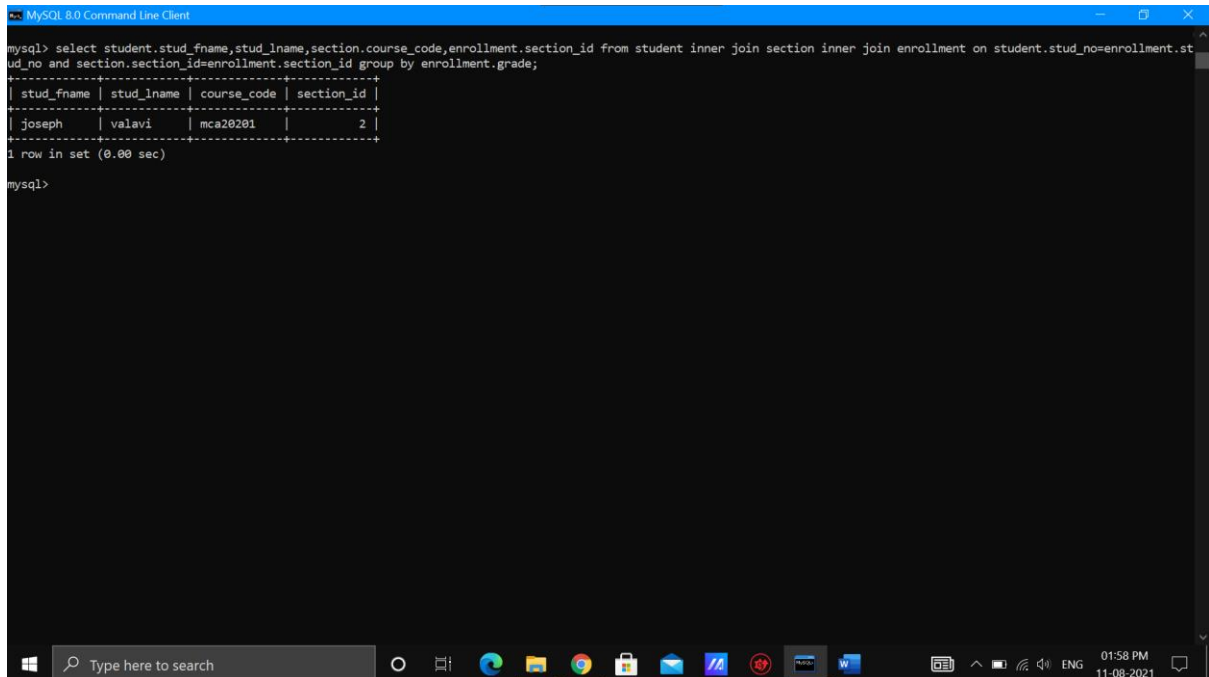
mysql>
```

23. Display the names of the students in the descending order along with their phone number.

```
Command Prompt - mysql -u root -p
ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that corresponds to your MySQL server version for the right syntax to use near 'desc' at line 1
mysql> select stud_fname, stud_lname from student order by stud_fname desc;
+-----+-----+
| stud_fname | stud_lname |
+-----+-----+
| noel       | pasl       |
| joseph     | valavi     |
| joel       | paul       |
| joe        | paul       |
| arun       | paul       |
+-----+-----+
5 rows in set (0.00 sec)

mysql>
```

24. List the student's name, course code and section id grouping the students by their grade.



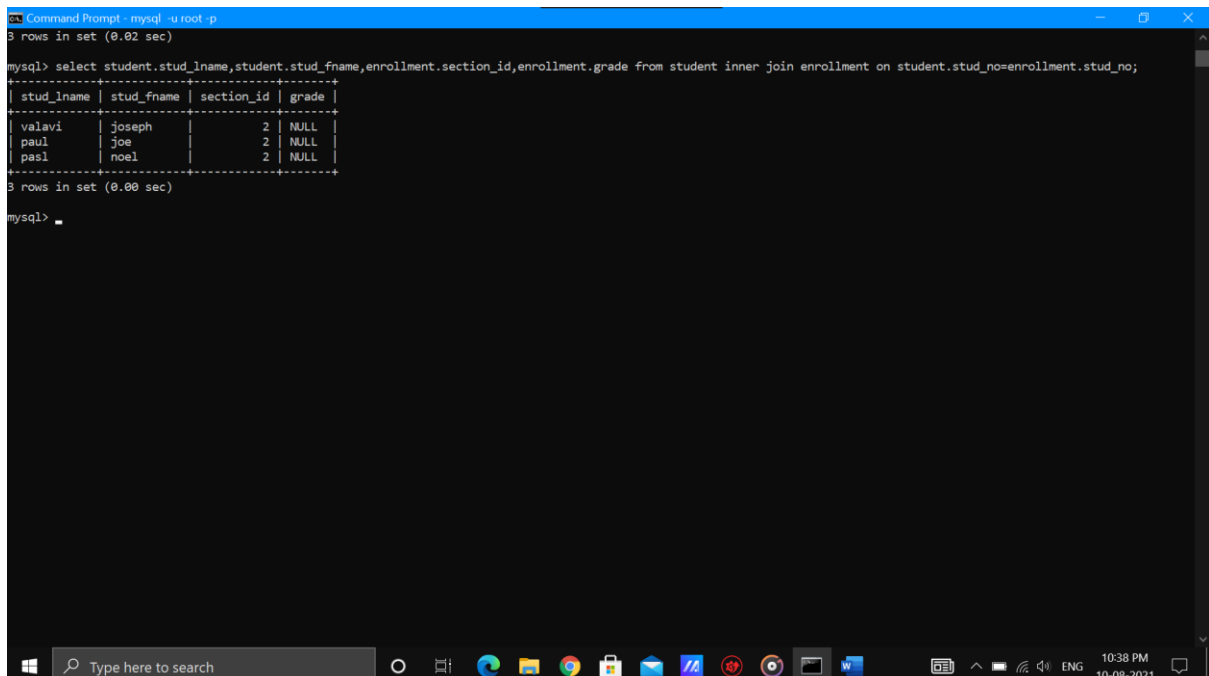
```
mysql> select student.stud_fname,stud_lname,section.course_code,enrollment.section_id from student inner join section inner join enrollment on student.stud_no=enrollment.stud_no and section.section_id=enrollment.section_id group by enrollment.grade;
```

stud_fname	stud_lname	course_code	section_id
Joseph	valavi	mca20201	2

1 row in set (0.00 sec)

mysql>

25. Use an inner join between the STUDENT and ENROLMENT tables for showing the full name, Section id and Grade.



```
mysql> select student.stud_lname,student.stud_fname,enrollment.section_id,enrollment.grade from student inner join enrollment on student.stud_no=enrollment.stud_no;
```

stud_lname	stud_fname	section_id	grade
valavi	joseph	2	NULL
paul	joe	2	NULL
pasi	noel	2	NULL

3 rows in set (0.00 sec)

mysql>

26. Use an outer join between the STUDENT and ENROLMENT tables for showing the

full name, Section id and Grade. Include all the students regardless of whether they have a matching section.

```
Command Prompt - mysql -u root -p
mysql> select student.stud_lname,student.stud_fname,enrollment.section_id,enrollment.grade from student left join enrollment on student.stud_no=enrollment.stud_no;
+-----+-----+-----+-----+
| stud_lname | stud_fname | section_id | grade |
+-----+-----+-----+-----+
| valavi     | joseph    | 2          | NULL  |
| paul       | arun      | NULL       | NULL  |
| paul       | joe       | 2          | NULL  |
| paul       | joel      | NULL       | NULL  |
| pasl       | noel      | 2          | NULL  |
+-----+-----+-----+-----+
5 rows in set (0.01 sec)

mysql>
```

27. Give a 7% salary raise to instructors whose salary is less than the average.

```
MySQL 8.0 Command Line Client
ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that corresponds to your MySQL server version for the right syntax to use near '' at line 1
mysql> update instructor set salary=salary*(7/100*salary) where salary < (select avg(salary));
Query OK, 0 rows affected (0.00 sec)
Rows matched: 0 Changed: 0 Warnings: 0

mysql> select * from instructor;
+-----+-----+-----+-----+-----+
| instructor_id | instructor_lname | instructor_fname | instructor_phone | salary |
+-----+-----+-----+-----+-----+
| 2             | g                | ashna           | 701288132       | 50000  |
| 3             | s                | sandeep         | 97987542        | 35000  |
| 4             | o                | asifa           | 3333396242      | 1000   |
| 5             | d                | george          | 987334342       | 45000  |
+-----+-----+-----+-----+-----+
4 rows in set (0.00 sec)

mysql>
```

28. List full name and salary of instructors whose last name ends with 'a' and earns highest salary.

```
Command Prompt - mysql -u root -p
Rows matched: 1  Changed: 1  Warnings: 0

mysql> select instructor_fmname,salary from instructor WHERE salary=(select max(salary) from instructor) and instructor_fmname in(select instructor_fmname from instructor where instructor_fmname like '%a');
+-----+-----+
| instructor_fmname | salary |
+-----+-----+
| ashna             | 50000  |
+-----+-----+
1 row in set (0.00 sec)

mysql>
```

29. Display the details of instructor who draws lowest salary.

```
Command Prompt - mysql -u root -p
ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that corresponds to your MySQL server version for the right syntax to use near '' at line 3
mysql> select instructor_fmname,salary from instructor WHERE salary in (select min(salary) from instructor);
+-----+-----+
| instructor_fmname | salary |
+-----+-----+
| asifa             | 1000   |
+-----+-----+
1 row in set (0.00 sec)

mysql>
```

30. List the students details who lived in Kochi, Kerala or in Bangalore, Karnataka or both.

```
Command Prompt - mysql -u root -p
ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that corresponds to your MySQL server version for the right syntax to use near 'select * from stud
ent where stud_city=ekm and "kerala" or "banglore" and "karnat' at line 1
mysql> select * from student where stud_city=ekm and "kerala" or "banglore" and "karnataka" or stud_city in("ekm","kerla","banglore","karnataka");
ERROR 1054 (42S22): Unknown column 'ekm' in 'where clause'
mysql> select * from student where stud_city="ekm" and "kerala" or "banglore" and "karnataka" or stud_city in("ekm","kerla","banglore","karnataka");
+-----+-----+-----+-----+-----+-----+-----+
| stud_no | stud_lname | stud_fname | stud_address | stud_city | state | post |
+-----+-----+-----+-----+-----+-----+-----+
| 1       | valavi     | joseph     | valavi house | ekm       | kerala | 682028 |
| 2       | paul       | arun       | vj           | ekm       | kerala | 684508 |
| 5       | pasci      | noel       | spolo        | ekm       | kerala | 62538  |
+-----+-----+-----+-----+-----+-----+-----+
3 rows in set, 2 warnings (0.00 sec)

mysql>
```