UE20CS301 DBMS LAB

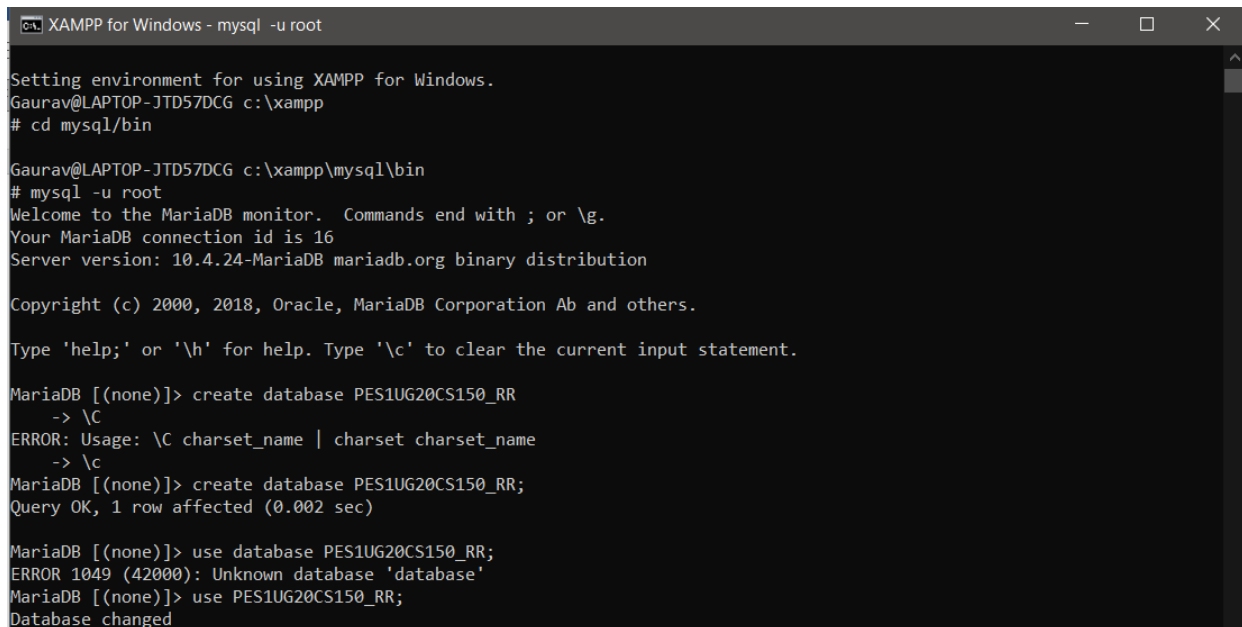# GAURAV MAHAJAN SEC C

LAB 3 DDL COMMANDS

Create tables for the Above-mentioned Relational design and add check, default, not null and unique constraints.

1)Specify PK and FK constraints for all applicable Relations
2)For Train_name, Train_Type in Train table add not null constraints
value
3) Add default constraint for compartment table setting Availability attribute to Yes
4)train name should be unique
5)Add check constraints to Ticket to check if the passenger age is above 5
6)Rename any existing table name
7) use Truncate and drop commands

CREATING THE DATABASE

create database PES1UG20CS150_RR;

use PES1UG20CS150_RR;

create table TRAIN(Train_no integer not null, Name char(20) not null unique, Arrival time,Destination varchar(150),Availability varchar(15) default 'Yes',Train_type varchar(150) not null,primary key(Train_no));

desc TRAIN;

```
XAMPP for Windows - mysql  -u root                                    —    □    ×

MariaDB [PES1UG20CS150_RR]> create table TRAIN(Train_no integernot null, Name char(20) not null uni
que, Arrival time,Destination varchar(150),Availability varchar(15) default 'Yes',Train_type varcha
r(150) not null,primary key(Train_no));
ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that corresponds to your
 MariaDB server version for the right syntax to use near 'null, Name char(20) not null unique, Arri
val time,Destination varchar(150),Av...' at line 1
MariaDB [PES1UG20CS150_RR]> create table TRAIN(Train_no integer not null, Name char(20) not null un
ique, Arrival time,Destination varchar(150),Availability varchar(15) default 'Yes',Train_type varch
ar(150) not null,primary key(Train_no));
Query OK, 0 rows affected (0.017 sec)

MariaDB [PES1UG20CS150_RR]> desc TRAIN
    -> \c
MariaDB [PES1UG20CS150_RR]> desc TRAIN;
+--------------+--------------+------+-----+---------+-------+
| Field        | Type         | Null | Key | Default | Extra |
+--------------+--------------+------+-----+---------+-------+
| Train_no     | int(11)      | NO   | PRI | NULL    |       |
| Name         | char(20)     | NO   | UNI | NULL    |       |
| Arrival      | time         | YES  |     | NULL    |       |
| Destination  | varchar(150) | YES  |     | NULL    |       |
| Availability | varchar(15)  | YES  |     | Yes     |       |
| Train_type   | varchar(150) | NO   |     | NULL    |       |
+--------------+--------------+------+-----+---------+-------+
6 rows in set (0.011 sec)

MariaDB [PES1UG20CS150_RR]> create table COMPARTMENT(type varchar(50),compartment_number integer no
t null, capacity integer,availability varchar(25) default 'Yes',primary key(compartment_number),Tra
in_no integer,foreign key(Train_no) references TRAIN(Train_no));
Query OK, 0 rows affected (0.019 sec)
```

MariaDB [PES1UG20CS150_RR]> create table COMPARTMENT(type varchar(50),compartment_number integer not null, capacity integer,availability varchar(25) default 'Yes',primary key(compartment_number),Train_no integer,foreign key(Train_no) references TRAIN(Train_no));

desc COMPARTMENT;


```
MariaDB [PES1UG20CS150_RR]> desc COMPARTMENT;
+--------------------+--------------+------+-----+---------+-------+
| Field              | Type         | Null | Key | Default | Extra |
+--------------------+--------------+------+-----+---------+-------+
| type               | varchar(50)  | YES  |     | NULL    |       |
| compartment_number | int(11)      | NO   | PRI | NULL    |       |
| capacity           | int(11)      | YES  |     | NULL    |       |
| availability       | varchar(25)  | YES  |     | Yes     |       |
| Train_no           | int(11)      | YES  | MUL | NULL    |       |
+--------------------+--------------+------+-----+---------+-------+
5 rows in set (0.011 sec)

MariaDB [PES1UG20CS150_RR]>
```

create table ROUTE_INFO(From_Station_No integer,From_Station_Name varchar(100),To_Station_No integer,To_Station_Name varchar(100),Distance varchar(50) ,Train_no integer,primary key(From_Station_No,To_Station_No),foreign key(Train_no) references TRAIN(Train_no));

desc ROUTE_INFO;

```
MariaDB [PES1UG20CS150_RR]> create table ROUTE_INFO(From_Station_No integer,From_Station_Name varch
ar(100),To_Station_No integer,To_Station_Name varchar(100),Distance varchar(50) ,Train_no integer,p
rimary key(From_Station_No,To_Station_No),foreign key(Train_no) references TRAIN(Train_no));
Query OK, 0 rows affected (0.020 sec)

MariaDB [PES1UG20CS150_RR]> desc ROUTE_INFO
    -> \c
MariaDB [PES1UG20CS150_RR]> desc ROUTE_INFO;
+------------------+--------------+------+-----+---------+-------+
| Field            | Type         | Null | Key | Default | Extra |
+------------------+--------------+------+-----+---------+-------+
| From_Station_No  | int(11)      | NO   | PRI | NULL    |       |
| From_Station_Name| varchar(100) | YES  |     | NULL    |       |
| To_Station_No    | int(11)      | NO   | PRI | NULL    |       |
| To_Station_Name  | varchar(100) | YES  |     | NULL    |       |
| Distance         | varchar(50)  | YES  |     | NULL    |       |
| Train_no         | int(11)      | YES  | MUL | NULL    |       |
+------------------+--------------+------+-----+---------+-------+
6 rows in set (0.010 sec)

MariaDB [PES1UG20CS150_RR]>
```

create table USER(User_id integer not null,User_type varchar(100),F_name varchar(100),L_Name varchar(100), Age integer, DOB Date, Pincode integer, Street_no integer,primary key(User_id));

desc USER;

```
MariaDB [PES1UG20CS150_RR]> create table USER(User_id integer not null,User_type varchar(100),F_nam
e varchar(100),L_Name varchar(100), Age integer, DOB Date, Pincode integer, Street_no integer,prima
ry key(User_id));
Query OK, 0 rows affected (0.017 sec)

MariaDB [PES1UG20CS150_RR]> desc USER
    -> \c
MariaDB [PES1UG20CS150_RR]> desc USER;
+-----------+--------------+------+-----+---------+-------+
| Field     | Type         | Null | Key | Default | Extra |
+-----------+--------------+------+-----+---------+-------+
| User_id   | int(11)      | NO   | PRI | NULL    |       |
| User_type | varchar(100) | YES  |     | NULL    |       |
| F_name    | varchar(100) | YES  |     | NULL    |       |
| L_Name    | varchar(100) | YES  |     | NULL    |       |
| Age       | int(11)      | YES  |     | NULL    |       |
| DOB       | date         | YES  |     | NULL    |       |
| Pincode   | int(11)      | YES  |     | NULL    |       |
| Street_no | int(11)      | YES  |     | NULL    |       |
+-----------+--------------+------+-----+---------+-------+
8 rows in set (0.011 sec)

MariaDB [PES1UG20CS150_RR]>
```

create table TRAIN_USER(Train_No integer,User_id integer,Date_Time_Stamp datetime,primary key(Train_No,User_id,Date_Time_Stamp), foreign key(Train_no) references TRAIN(Train_no),foreign key(User_id) references USER(User_id));

desc TRAIN_USER;

```
MariaDB [PES1UG20CS150_RR]> create table TRAIN_USER(Train_No integer,User_id integer,Date_Time_Stam
p datetime,primary key(Train_No,User_id,Date_Time_Stamp), foreign key(Train_no) references TRAIN(Tr
ain_no),foreign key(User_id) references USER(User_id));
Query OK, 0 rows affected (0.019 sec)

MariaDB [PES1UG20CS150_RR]> desc TRAIN_USER;
+-----------------+----------+------+-----+---------+-------+
| Field           | Type     | Null | Key | Default | Extra |
+-----------------+----------+------+-----+---------+-------+
| Train_No        | int(11)  | NO   | PRI | NULL    |       |
| User_id         | int(11)  | NO   | PRI | NULL    |       |
| Date_Time_Stamp | datetime | NO   | PRI | NULL    |       |
+-----------------+----------+------+-----+---------+-------+
3 rows in set (0.009 sec)

MariaDB [PES1UG20CS150_RR]>
```

create table USER_PHONE(User_id integer,Phone_no varchar(20),primary key(User_id,Phone_no), foreign key(User_id) references USER(User_id));

desc USER_PHONE;

```
MariaDB [PES1UG20CS150_RR]> create table USER_PHONE(User_id integer,Phone_no varchar(20),primary ke
y(User_id,Phone_no), foreign key(User_id) references USER(User_id));
Query OK, 0 rows affected (0.018 sec)

MariaDB [PES1UG20CS150_RR]> desc USER_PHONE
    -> \c
MariaDB [PES1UG20CS150_RR]> desc USER_PHONE;
+----------+-------------+------+-----+---------+-------+
| Field    | Type        | Null | Key | Default | Extra |
+----------+-------------+------+-----+---------+-------+
| User_id  | int(11)     | NO   | PRI | NULL    |       |
| Phone_no | varchar(20) | NO   | PRI | NULL    |       |
+----------+-------------+------+-----+---------+-------+
2 rows in set (0.008 sec)
```

create table TICKET(PNR integer,primary key(PNR),Train_NUmber integer,travel_date date, Departure varchar(100),Arrival varchar(100),Departure_time time,Arrival_Time time,User_id integer, Train_type varchar(20),Compartment_type varchar(20), Cmpt_No integer, foreign key(User_id) references USER(User_id));

desc TICKET;

```
MariaDB [PES1UG20CS150_RR]> create table TICKET(PNR integer,primary key(PNR),Train_NUmber integer,t
ravel_date date, Departure varchar(100),Arrival varchar(100),Departure_time time,Arrival_Time time,
User_id integer, Train_type varchar(20),Compartment_type varchar(20), Cmpt_No integer, foreign key(
User_id) references USER(User_id));
Query OK, 0 rows affected (0.019 sec)

MariaDB [PES1UG20CS150_RR]> desc TICKET;
+------------------+--------------+------+-----+---------+-------+
| Field            | Type         | Null | Key | Default | Extra |
+------------------+--------------+------+-----+---------+-------+
| PNR              | int(11)      | NO   | PRI | NULL    |       |
| Train_NUmber     | int(11)      | YES  |     | NULL    |       |
| travel_date      | date         | YES  |     | NULL    |       |
| Departure        | varchar(100) | YES  |     | NULL    |       |
| Arrival          | varchar(100) | YES  |     | NULL    |       |
| Departure_time   | time         | YES  |     | NULL    |       |
| Arrival_Time     | time         | YES  |     | NULL    |       |
| User_id          | int(11)      | YES  | MUL | NULL    |       |
| Train_type       | varchar(20)  | YES  |     | NULL    |       |
| Compartment_type | varchar(20)  | YES  |     | NULL    |       |
| Cmpt_No          | int(11)      | YES  |     | NULL    |       |
+------------------+--------------+------+-----+---------+-------+
11 rows in set (0.010 sec)

MariaDB [PES1UG20CS150_RR]>
```

create table PAYMENT_INFO(Transaction_id integer,primary key(Transaction_id),Bank varchar(100), Card_Number integer,Price integer, PNR integer, foreign key(PNR) references TICKET(PNR));

desc PAYMENT_INFO;

```
MariaDB [PES1UG20CS150_RR]> create table PAYMENT_INFO(Transaction_id integer,primary key(Transactio
n_id),Bank varchar(100), Card_Number integer,Price integer, PNR integer, foreign key(PNR) reference
s TICKET(PNR));
Query OK, 0 rows affected (0.019 sec)

MariaDB [PES1UG20CS150_RR]> desc PAYMENT_INFO
    -> \c
MariaDB [PES1UG20CS150_RR]> desc PAYMENT_INFO;
+----------------+--------------+------+-----+---------+-------+
| Field          | Type         | Null | Key | Default | Extra |
+----------------+--------------+------+-----+---------+-------+
| Transaction_id | int(11)      | NO   | PRI | NULL    |       |
| Bank           | varchar(100) | YES  |     | NULL    |       |
| Card_Number    | int(11)      | YES  |     | NULL    |       |
| Price          | int(11)      | YES  |     | NULL    |       |
| PNR            | int(11)      | YES  | MUL | NULL    |       |
+----------------+--------------+------+-----+---------+-------+
5 rows in set (0.010 sec)

MariaDB [PES1UG20CS150_RR]>
```

create table TICKET_PASSENGER(Seat_No integer, primary key(Seat_No),Name varchar(20),Age integer, PNR integer, foreign key(PNR) references TICKET(PNR));

desc TICKET_PASSENGER;

```
MariaDB [PES1UG20CS150_RR]> create table TICKET_PASSENGER(Seat_No integer, primary key(Seat_No),Nam
e varchar(20),Age integer, PNR integer, foreign key(PNR) references TICKET(PNR));
Query OK, 0 rows affected (0.021 sec)

MariaDB [PES1UG20CS150_RR]> desc TICKET_PASSENGER;
+---------+-------------+------+-----+---------+-------+
| Field   | Type        | Null | Key | Default | Extra |
+---------+-------------+------+-----+---------+-------+
| Seat_No | int(11)     | NO   | PRI | NULL    |       |
| Name    | varchar(20) | YES  |     | NULL    |       |
| Age     | int(11)     | YES  |     | NULL    |       |
| PNR     | int(11)     | YES  | MUL | NULL    |       |
+---------+-------------+------+-----+---------+-------+
4 rows in set (0.011 sec)

MariaDB [PES1UG20CS150_RR]>
```

create table FARE_TABLE(Train_type varchar(100),Compartment_type varchar(100),primary key(Train_type,Compartment_type), FareperKM integer);

desc FARE_TABLE;

```
MariaDB [PES1UG20CS150_RR]> create table FARE_TABLE(Train_type varchar(100),Compartment_type varcha
r(100),primary key(Train_type,Compartment_type), FareperKM integer);
Query OK, 0 rows affected (0.023 sec)

MariaDB [PES1UG20CS150_RR]> desc FARE_TABLE;
+------------------+--------------+------+-----+---------+-------+
| Field            | Type         | Null | Key | Default | Extra |
+------------------+--------------+------+-----+---------+-------+
| Train_type       | varchar(100) | NO   | PRI | NULL    |       |
| Compartment_type | varchar(100) | NO   | PRI | NULL    |       |
| FareperKM        | int(11)      | YES  |     | NULL    |       |
+------------------+--------------+------+-----+---------+-------+
3 rows in set (0.008 sec)

MariaDB [PES1UG20CS150_RR]>
```

alter table TICKET_PASSENGER add check(Age>5);

desc TICKET_PASSENGER;

```
MariaDB [PES1UG20CS150_RR]> alter table TICKET_PASSENGER add check(Age>5);
Query OK, 0 rows affected (0.061 sec)
Records: 0  Duplicates: 0  Warnings: 0

MariaDB [PES1UG20CS150_RR]> desc TICKET_PASSENGER;
+---------+-------------+------+-----+---------+-------+
| Field   | Type        | Null | Key | Default | Extra |
+---------+-------------+------+-----+---------+-------+
| Seat_No | int(11)     | NO   | PRI | NULL    |       |
| Name    | varchar(20) | YES  |     | NULL    |       |
| Age     | int(11)     | YES  |     | NULL    |       |
| PNR     | int(11)     | YES  | MUL | NULL    |       |
+---------+-------------+------+-----+---------+-------+
4 rows in set (0.011 sec)

MariaDB [PES1UG20CS150_RR]>
```

alter table FARE_TABLE rename FARE;

desc FARE_TABLE;

```
MariaDB [PES1UG20CS150_RR]> alter table FARE_TABLE rename FARE;
Query OK, 0 rows affected (0.012 sec)

MariaDB [PES1UG20CS150_RR]> desc FARE_TABLE
    -> \c
MariaDB [PES1UG20CS150_RR]> desc FARE_TABLE;
ERROR 1146 (42S02): Table 'pes1ug20cs150_rr.fare_table' doesn't exist
MariaDB [PES1UG20CS150_RR]> truncate table TRAIN_USER
    -> \c
```

truncate table TRAIN_USER;

desc TRAIN_USER;

```
MariaDB [PES1UG20CS150_RR]> truncate table TRAIN_USER;
Query OK, 0 rows affected (0.028 sec)

MariaDB [PES1UG20CS150_RR]> desc TRAIN_USER;
+-----------------+----------+------+-----+---------+-------+
| Field           | Type     | Null | Key | Default | Extra |
+-----------------+----------+------+-----+---------+-------+
| Train_No        | int(11)  | YES  | MUL | NULL    |       |
| User_id         | int(11)  | YES  | MUL | NULL    |       |
| Date_Time_Stamp | datetime | YES  |     | NULL    |       |
+-----------------+----------+------+-----+---------+-------+
3 rows in set (0.009 sec)

MariaDB [PES1UG20CS150_RR]>
```

drop table TRAIN_USER;

desc TRAIN_USER;

```
MariaDB [PES1UG20CS150_RR]> drop table TRAIN_USER;
Query OK, 0 rows affected (0.011 sec)

MariaDB [PES1UG20CS150_RR]> desc TRAIN_USER;
ERROR 1146 (42S02): Table 'pes1ug20cs150_rr.train_user' doesn't exist
MariaDB [PES1UG20CS150_RR]>
```