SRN: PES1UG20CS450

Section: H

COMPARTMENT

```
MariaDB [railway]> create table COMPARTMENT(Type varchar(10),Compartment_no integer not null,Capacity integer,Availability varchar(10) not null,Train_no varchar(10),PRIMARY KEY(Compartment_no),FOREIGN KEY(Train_no) REFERENCES TRAIN(Train_no));
Query OK, 0 rows affected (0.020 sec)

MariaDB [railway]> desc COMPARTMENT;
+----------------+-------------+------+-----+---------+-------+
| Field          | Type        | Null | Key | Default | Extra |
+----------------+-------------+------+-----+---------+-------+
| Type           | varchar(10) | YES  |     | NULL    |       |
| Compartment_no | int(11)     | NO   | PRI | NULL    |       |
| Capacity       | int(11)     | YES  |     | NULL    |       |
| Availability   | varchar(10) | NO   |     | NULL    |       |
| Train_no       | varchar(10) | YES  | MUL | NULL    |       |
+----------------+-------------+------+-----+---------+-------+
5 rows in set (0.017 sec)
```

Fare Table.

```
MariaDB [railway]> create table fare_table(Train_type varchar(20),compartment_type varchar(20),fareperkm integer, PRIMARY KEY(Train_type, compartment_type));
Query OK, 0 rows affected (0.017 sec)

MariaDB [railway]> desc fare_table;
+------------------+-------------+------+-----+---------+-------+
| Field            | Type        | Null | Key | Default | Extra |
+------------------+-------------+------+-----+---------+-------+
| Train_type       | varchar(20) | NO   | PRI | NULL    |       |
| compartment_type | varchar(20) | NO   | PRI | NULL    |       |
| fareperkm        | int(11)     | YES  |     | NULL    |       |
+------------------+-------------+------+-----+---------+-------+
3 rows in set (0.017 sec)
```

Payment info

```
MariaDB [railway]> create table payment_info(transaction_id varchar(20),bank varchar(20),card_number varchar(20), price integer, PNR varchar(100),PRIMARY KEY(transaction_id), FOREIGN KEY(PNR) REFERENCES ticket(PNR));
Query OK, 0 rows affected (0.007 sec)

MariaDB [railway]> desc payment_info;
+----------------+--------------+------+-----+---------+-------+
| Field          | Type         | Null | Key | Default | Extra |
+----------------+--------------+------+-----+---------+-------+
| transaction_id | varchar(20)  | NO   | PRI | NULL    |       |
| bank           | varchar(20)  | YES  |     | NULL    |       |
| card_number    | varchar(20)  | YES  |     | NULL    |       |
| price          | int(11)      | YES  |     | NULL    |       |
| PNR            | varchar(100) | YES  | MUL | NULL    |       |
+----------------+--------------+------+-----+---------+-------+
5 rows in set (0.017 sec)
```

route info

```
MariaDB [railway]> create table ROUTE_INFO(From_Station_No varchar(100),From_Station_Name varchar(100),To_Station_No varchar(100),To_Station_Name varchar(100),Distance int(3),Train_no varchar(10),PRIMARY KEY(From_Station_No,To_Station_No),FOREIGN KEY(Train_no) REFERENCES TRAIN(Train_no));
Query OK, 0 rows affected (0.008 sec)

MariaDB [railway]> desc ROUTE_INFO;
+-------------------+--------------+------+-----+---------+-------+
| Field             | Type         | Null | Key | Default | Extra |
+-------------------+--------------+------+-----+---------+-------+
| From_Station_No   | varchar(100) | NO   | PRI | NULL    |       |
| From_Station_Name | varchar(100) | YES  |     | NULL    |       |
| To_Station_No     | varchar(100) | NO   | PRI | NULL    |       |
| To_Station_Name   | varchar(100) | YES  |     | NULL    |       |
| Distance          | int(3)       | YES  |     | NULL    |       |
| Train_no          | varchar(10)  | YES  | MUL | NULL    |       |
+-------------------+--------------+------+-----+---------+-------+
6 rows in set (0.017 sec)
```

ticket

```
MariaDB [railway]> create table TICKET(PNR varchar(100),Train_no varchar(20),Travel_date varchar(20),departure varchar(20),arrival varchar(20),departure_time varchar(20),arrival_time varchar(20),UserID varchar(1
00),train_type varchar(20),compartment_type varchar(100),cmpt_no varchar(20),PRIMARY KEY(PNR),FOREIGN KEY(UserID) REFERENCES USER(UserID));
Query OK, 0 rows affected (0.019 sec)

MariaDB [railway]> desc TICKET;
+------------------+--------------+------+-----+---------+-------+
| Field            | Type         | Null | Key | Default | Extra |
+------------------+--------------+------+-----+---------+-------+
| PNR              | varchar(100) | NO   | PRI | NULL    |       |
| Train_no         | varchar(20)  | YES  |     | NULL    |       |
| Travel_date      | varchar(20)  | YES  |     | NULL    |       |
| departure        | varchar(20)  | YES  |     | NULL    |       |
| arrival          | varchar(20)  | YES  |     | NULL    |       |
| departure_time   | varchar(20)  | YES  |     | NULL    |       |
| arrival_time     | varchar(20)  | YES  |     | NULL    |       |
| UserID           | varchar(100) | YES  | MUL | NULL    |       |
| train_type       | varchar(20)  | YES  |     | NULL    |       |
| compartment_type | varchar(100) | YES  |     | NULL    |       |
| cmpt_no          | varchar(20)  | YES  |     | NULL    |       |
+------------------+--------------+------+-----+---------+-------+
11 rows in set (0.018 sec)
```

Passenger

```
MariaDB [railway]> create table ticket_passenger(Seat_no varchar(20),Name char(20),Age integer,PNR varchar(100),PRIMARY KEY(Seat_no),FOREIGN KEY(PNR) REFERENCES TICKET(PNR));
Query OK, 0 rows affected (0.009 sec)

MariaDB [railway]> desc ticket_passenger;
+---------+--------------+------+-----+---------+-------+
| Field   | Type         | Null | Key | Default | Extra |
+---------+--------------+------+-----+---------+-------+
| Seat_no | varchar(20)  | NO   | PRI | NULL    |       |
| Name    | char(20)     | YES  |     | NULL    |       |
| Age     | int(11)      | YES  |     | NULL    |       |
| PNR     | varchar(100) | YES  | MUL | NULL    |       |
+---------+--------------+------+-----+---------+-------+
4 rows in set (0.007 sec)
```

Train

```
MariaDB [(none)]> use railway;
Database changed
MariaDB [railway]> create table TRAIN(Train_no varchar(10) not null,Name varchar(100) not null,Arrival varchar(100) not null,Destination varchar(100) not null,Availability varchar(10),PRIMARY KEY(Train_no));
Query OK, 0 rows affected (0.023 sec)

MariaDB [railway]> desc TRAIN
    -> ;
+--------------+--------------+------+-----+---------+-------+
| Field        | Type         | Null | Key | Default | Extra |
+--------------+--------------+------+-----+---------+-------+
| Train_no     | varchar(10)  | NO   | PRI | NULL    |       |
| Name         | varchar(100) | NO   |     | NULL    |       |
| Arrival      | varchar(100) | NO   |     | NULL    |       |
| Destination  | varchar(100) | NO   |     | NULL    |       |
| Availability | varchar(10)  | YES  |     | NULL    |       |
+--------------+--------------+------+-----+---------+-------+
5 rows in set (0.017 sec)
```

User:

```
MariaDB [railway]> create table USER(UserID varchar(100) not null,user_type varchar(100), fname varchar(100), lname varchar(100), age integer, DOB varchar(8), PRIMARY KEY(User_ID))
ERROR 1072 (42000): Key column 'User_ID' doesn't exist in table
MariaDB [railway]> create table USER(UserID varchar(100) not null,user_type varchar(100), fname varchar(100), lname varchar(100), age integer, DOB varchar(8), PRIMARY KEY(UserID));
Query OK, 0 rows affected (0.011 sec)

MariaDB [railway]> desc USER;
+-----------+--------------+------+-----+---------+-------+
| Field     | Type         | Null | Key | Default | Extra |
+-----------+--------------+------+-----+---------+-------+
| UserID    | varchar(100) | NO   | PRI | NULL    |       |
| user_type | varchar(100) | YES  |     | NULL    |       |
| fname     | varchar(100) | YES  |     | NULL    |       |
| lname     | varchar(100) | YES  |     | NULL    |       |
| age       | int(11)      | YES  |     | NULL    |       |
| DOB       | varchar(8)   | YES  |     | NULL    |       |
+-----------+--------------+------+-----+---------+-------+
6 rows in set (0.017 sec)
```

User_phone:

```
MariaDB [railway]> create table USER_PHONE(UserID varchar(100),Phone_no varchar(100) not null, PRIMARY KEY(Phone_no),FOREIGN KEY(UserID) REFERENCES USER(UserID));
Query OK, 0 rows affected (0.019 sec)

MariaDB [railway]> desc USER_PHONE;
+----------+--------------+------+-----+---------+-------+
| Field    | Type         | Null | Key | Default | Extra |
+----------+--------------+------+-----+---------+-------+
| UserID   | varchar(100) | YES  | MUL | NULL    |       |
| Phone_no | varchar(100) | NO   | PRI | NULL    |       |
+----------+--------------+------+-----+---------+-------+
2 rows in set (0.018 sec)
```

User_train:

```
MariaDB [railway]> create table USER_TRAIN(Train_no varchar(10),UserID varchar(100),Date_time_stamp varchar(100) not null,PRIMARY KEY(Date_time_stamp),FOREIGN KEY(Train_no) REFERENCES TRAIN(Train_no),FOREIGN KEY
(UserID) REFERENCES USER(UserID));
Query OK, 0 rows affected (0.020 sec)

MariaDB [railway]> desc USER_TRAIN;
+-----------------+--------------+------+-----+---------+-------+
| Field           | Type         | Null | Key | Default | Extra |
+-----------------+--------------+------+-----+---------+-------+
| Train_no        | varchar(10)  | YES  | MUL | NULL    |       |
| UserID          | varchar(100) | YES  | MUL | NULL    |       |
| Date_time_stamp | varchar(100) | NO   | PRI | NULL    |       |
+-----------------+--------------+------+-----+---------+-------+
3 rows in set (0.017 sec)
```

Relation Operations:

```
MariaDB [railway]> ALTER TABLE TICKET rename TICKET_DETAILS;
Query OK, 0 rows affected (0.006 sec)

MariaDB [railway]> desc TICKET_DETAILS;
+------------------+--------------+------+-----+---------+-------+
| Field            | Type         | Null | Key | Default | Extra |
+------------------+--------------+------+-----+---------+-------+
| PNR              | varchar(100) | NO   | PRI | NULL    |       |
| Train_no         | varchar(20)  | YES  |     | NULL    |       |
| Travel_date      | varchar(20)  | YES  |     | NULL    |       |
| departure        | varchar(20)  | YES  |     | NULL    |       |
| arrival          | varchar(20)  | YES  |     | NULL    |       |
| departure_time   | varchar(20)  | YES  |     | NULL    |       |
| arrival_time     | varchar(20)  | YES  |     | NULL    |       |
| UserID           | varchar(100) | YES  | MUL | NULL    |       |
| train_type       | varchar(20)  | YES  |     | NULL    |       |
| compartment_type | varchar(100) | YES  |     | NULL    |       |
| cmpt_no          | varchar(20)  | YES  |     | NULL    |       |
+------------------+--------------+------+-----+---------+-------+
11 rows in set (0.018 sec)
```

```
MariaDB [railway]> ALTER table TRAIN ADD CONSTRAINT Name unique(Name);
Query OK, 0 rows affected (0.020 sec)
Records: 0  Duplicates: 0  Warnings: 0

MariaDB [railway]> desc TRAIN;
+-------------+--------------+------+-----+---------+-------+
| Field       | Type         | Null | Key | Default | Extra |
+-------------+--------------+------+-----+---------+-------+
| Train_no    | varchar(10)  | NO   | PRI | NULL    |       |
| Name        | varchar(100) | NO   | UNI | NULL    |       |
| Arrival     | varchar(100) | NO   |     | NULL    |       |
| Destination | varchar(100) | NO   |     | NULL    |       |
| Availability| varchar(10)  | YES  |     | YES     |       |
| Train_type  | varchar(100) | NO   |     | NULL    |       |
+-------------+--------------+------+-----+---------+-------+
6 rows in set (0.006 sec)
```

```
MariaDB [railway]> ALTER table TRAIN
    -> Modify Availability Default="YES";
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 'Default="YES"' at line 2
MariaDB [railway]> ALTER table TRAIN ALTER Availability set default "YES";
Query OK, 0 rows affected (0.015 sec)
Records: 0  Duplicates: 0  Warnings: 0

MariaDB [railway]> desc TRAIN;
+-------------+--------------+------+-----+---------+-------+
| Field       | Type         | Null | Key | Default | Extra |
+-------------+--------------+------+-----+---------+-------+
| Train_no    | varchar(10)  | NO   | PRI | NULL    |       |
| Name        | varchar(100) | NO   |     | NULL    |       |
| Arrival     | varchar(100) | NO   |     | NULL    |       |
| Destination | varchar(100) | NO   |     | NULL    |       |
| Availability| varchar(10)  | YES  |     | YES     |       |
| Train_type  | varchar(100) | NO   |     | NULL    |       |
+-------------+--------------+------+-----+---------+-------+
6 rows in set (0.008 sec)
```

```
MariaDB [railway]> ALTER TABLE USER add constraint CHK_AGE CHECK(Age >=5);
Query OK, 0 rows affected (0.031 sec)
Records: 0  Duplicates: 0  Warnings: 0

MariaDB [railway]> desc USER;
+-----------+--------------+------+-----+---------+-------+
| Field     | Type         | Null | Key | Default | Extra |
+-----------+--------------+------+-----+---------+-------+
| UserID    | varchar(100) | NO   | PRI | NULL    |       |
| user_type | varchar(100) | YES  |     | NULL    |       |
| fname     | varchar(100) | YES  |     | NULL    |       |
| lname     | varchar(100) | YES  |     | NULL    |       |
| age       | int(11)      | YES  |     | NULL    |       |
| DOB       | varchar(8)   | YES  |     | NULL    |       |
+-----------+--------------+------+-----+---------+-------+
6 rows in set (0.019 sec)
```

```
MariaDB [railway]> truncate table user_train;
Query OK, 0 rows affected (0.023 sec)

MariaDB [railway]> drop table user_train;
Query OK, 0 rows affected (0.014 sec)

MariaDB [railway]> select * from user train;
Empty set (0.000 sec)

MariaDB [railway]> select * from user_phone;
Empty set (0.001 sec)

MariaDB [railway]>
```