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Data Definition Language (DDL): Tables

Train Table (SQL commands, attributes, data types, constraints):

```
CREATE TABLE train(  
trainID INT,  
seatnumbers INT,  
  
CONSTRAINT pk_train PRIMARY KEY(trainID) );  
  
DESCRIBE train;
```

Object Type TABLE Object TRAIN										
Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment	
TRAIN	TRAINID	NUMBER	22	-	0	1	-	-	-	
	SEATNUMBERS	NUMBER	22	-	0	-	✓	-	-	
1 - 2										

Data Definition Language (DDL): Tables

Stations Table (SQL commands, attributes, data types, constraints):

```
CREATE TABLE Stations (
    StationID VARCHAR(3) NOT NULL,
    StationName VARCHAR(100) NOT NULL,
    CONSTRAINT Station_ID PRIMARY KEY ( StationID ) );
```

```
DESCRIBE Stations;
```

Object Type TABLE Object STATIONS										
Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment	
STATIONS	STATIONID	VARCHAR2	3	-	-	1	-	-	-	
	STATIONNAME	VARCHAR2	100	-	-	-	-	-	-	
1 - 2										

Data Definition Language (DDL): Tables

Ticket Type Table (SQL commands, attributes, data types, constraints):

```
CREATE TABLE TicketType (
    className VARCHAR(50),
    OnboardMeal VARCHAR(30),
    OnboardBaggage VARCHAR(30),
    CheckedBaggage VARCHAR(30),
    priceAmount INT,
    CONSTRAINT pk_className PRIMARY KEY(className) );

DESCRIBE TicketType;
```

Object Type	TABLE Object	TICKETTYPE							
Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
TICKETTYPE	CLASSNAME	VARCHAR2	50	-	-	1	-	-	-
	ONBOARDMEAL	VARCHAR2	30	-	-	-	✓	-	-
	ONBOARDBAGGAGE	VARCHAR2	30	-	-	-	✓	-	-
	CHECKEDBAGGAGE	VARCHAR2	30	-	-	-	✓	-	-
	PRICEAMOUNT	NUMBER	22	-	0	-	✓	-	-

Data Definition Language (DDL): Tables

Employee Table (SQL commands, attributes, data types, constraints):

```
CREATE TABLE employee(
    employeeID INT,
    employeeName VARCHAR(50) NOT NULL,
    employeePhone VARCHAR(50),
    employeeEmail VARCHAR(50) NOT NULL,
    Job VARCHAR(30) NOT NULL,
    trainID INT,
    salary INT,
    CONSTRAINT pk_employeeID1 PRIMARY KEY (employeeID)
    CONSTRAINT fk_employeeTrainID1 FOREIGN KEY (trainID) REFERENCES train(trainID);

DESCRIBE TABLE employee;
```

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
EMPLOYEE	EMPLOYEEID	NUMBER	22	-	0	1	-	-	-
	EMPLOYEENAME	VARCHAR2	50	-	-	-	-	-	-
	EMPLOYEEPHONE	VARCHAR2	50	-	-	-	✓	-	-
	EMPLOYEEEMAIL	VARCHAR2	50	-	-	-	-	-	-
	JOB	VARCHAR2	30	-	-	-	-	-	-
	TRAINID	NUMBER	22	-	0	-	✓	-	-
	SALARY	NUMBER	22	-	-	-	✓	-	-

Data Definition Language (DDL): Tables

Passengers Table (SQL commands, attributes, data types, constraints):

```
CREATE TABLE Passengers (
    PassengerID INT,
    passengerName VARCHAR(50),
    passengerPhone VARCHAR(50) NOT NULL,
    passengerEmail varchar(50) NOT NULL,
    TicketID INT,
    CONSTRAINT pk_passengerID PRIMARY KEY(PassengerID) );

ALTER TABLE Passengers
ADD CONSTRAINT fk_ticketID
foreign key (TicketID) references Ticket (TicketID);

DESCRIBE Passengers;
```

Object Type TABLE Object PASSENGERS								
Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	
PASSENGERS	PASSENGERID	NUMBER	22	-	0	1	-	
	PASSENGERNAME	VARCHAR2	50	-	-	-	✓	
	PASSENGERPHONE	VARCHAR2	50	-	-	-	-	
	PASSENGEREMAIL	VARCHAR2	50	-	-	-	-	
	TICKETID	NUMBER	22	-	0	-	✓	

Data Definition Language (DDL): Tables

Train Trip Table (SQL commands, attributes, data types, constraints):

```
CREATE TABLE TrainTrip (
    TripID INT,
    trainID INT,
    DepartureDateTime TIMESTAMP,
    ArrivalDateTime TIMESTAMP,
    CONSTRAINT pk_TripID PRIMARY KEY(TripID),
    CONSTRAINT fk_trainIDtrip FOREIGN KEY(trainID) REFERENCES train(trainID) );
DESCRIBE TrainTrip;
```

Object Type TABLE Object TRAINTRIP								
Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	
TRAINTRIP	TRIPID	NUMBER	22	-	0	1	-	
	TRAINID	NUMBER	22	-	0	-	✓	
	DEPARTUREDATETIME	TIMESTAMP(6)	11	-	6	-	✓	
	ARRIVALDATETIME	TIMESTAMP(6)	11	-	6	-	✓	

Data Definition Language (DDL): Tables

Advanced Train Trip Table (SQL commands, attributes, data types, constraints):

```
CREATE TABLE AdvancedTrainTrip (
    TripID INT,
    trainID INT,
    ArrivalStation VARCHAR(50),
    DepartureStation VARCHAR(50),
    DepartureDateTime TIMESTAMP,
    ArrivalDateTime TIMESTAMP,
    className VARCHAR(50),
    TicketPrice INT,
    CONSTRAINT fk_trainID foreign key(TripID) references TrainTrip (TripID),
    Constraint fk_TripID foreign key (trainID) references train (trainID) );
```

```
DESCRIBE AdvancedTrainTrip;
```

Object Type TABLE Object ADVANCEDTRAINTRIP								
Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	
ADVANCEDTRAINTRIP	TRIPID	NUMBER	22	-	0	-	✓	
	TRAINID	NUMBER	22	-	0	-	✓	
	ARRIVALSTATION	VARCHAR2	50	-	-	-	✓	
	DEPARTURESTATION	VARCHAR2	50	-	-	-	✓	
	DEPARTUREDATETIME	TIMESTAMP(6)	11	-	6	-	✓	
	ARRIVALDATETIME	TIMESTAMP(6)	11	-	6	-	✓	
	CLASSNAME	VARCHAR2	50	-	-	-	✓	
	TICKETPRICE	NUMBER	22	-	0	-	✓	

Data Definition Language (DDL): Tables

Ticket Table (SQL commands, attributes, data types, constraints):

```
CREATE TABLE Ticket (
    TicketID INT,
    PassengerID INT,
    tripID INT,
    ArrivalStation VARCHAR(50),
    DepartureStation VARCHAR(50),
    DepartureDateTime TIMESTAMP,
    ArrivalDateTime TIMESTAMP,
    PurchasedDate TIMESTAMP,
    className VARCHAR(50),
    SeatNumbers INT,
```

```
CONSTRAINT pk_ticket PRIMARY KEY(TicketID),
CONSTRAINT fk_PassengerID FOREIGN KEY (PassengerID) REFERENCES Passengers (PassengerID),
CONSTRAINT fk_TicketTripID FOREIGN KEY (TripID) REFERENCES TrainTrip (TripID);
```

```
DESCRIBE Ticket;
```

Object Type TABLE Object TICKET								
Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	
TICKET	TICKETID	NUMBER	22	-	0	1	-	
	PASSENGERID	NUMBER	22	-	0	-	✓	
	TRIPID	NUMBER	22	-	0	-	✓	
	ARRIVALSTATION	VARCHAR2	50	-	-	-	✓	
	DEPARTURESTATION	VARCHAR2	50	-	-	-	✓	
	DEPARTUREDATETIME	TIMESTAMP(6)	11	-	6	-	✓	
	ARRIVALDATETIME	TIMESTAMP(6)	11	-	6	-	✓	
	PURCHASEDDATE	TIMESTAMP(6)	11	-	6	-	✓	
	CLASSNAME	VARCHAR2	50	-	-	-	✓	
	SEATNUMBERS	NUMBER	22	-	0	-	✓	

Data Definition Language (DDL): Tables

Advanced Train Ticket Table (SQL commands, attributes, data types, constraints):

```
Create table AdvancedTrainTicket (
    TicketID INT,
    SeatNumber INT,
    PaymentMethod VARCHAR(20),
    PaymentAmount DECIMAL(10, 2),
    className VARCHAR(50),
    OnboardBaggage VARCHAR(30),
    CheckedBaggage VARCHAR(30),
    CONSTRAINT fk_TicketID FOREIGN KEY (TicketID) REFERENCES Ticket (TicketID),
    CONSTRAINT fk_className FOREIGN KEY (className) REFERENCES TicketType (className));

DESCRIBE AdvancedTrainTicket;
```

Object Type TABLE Object ADVANCEDTRAINTICKET							
Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable
ADVANCEDTRAINTICKET	TICKETID	NUMBER	22	-	0	-	✓
	PAYMENTMETHOD	VARCHAR2	20	-	-	-	✓
	PAYMENTAMOUNT	NUMBER	-	10	2	-	✓
	CLASSNAME	VARCHAR2	50	-	-	-	✓
	ONBOARDBAGGAGE	VARCHAR2	30	-	-	-	✓
	CHECKEDBAGGAGE	VARCHAR2	30	-	-	-	✓
	SEATNUMBER	NUMBER	22	-	-	-	✓

Data Definition Language (DDL): Tables

Ticket Payments Table (SQL commands, attributes, data types, constraints):

```
CREATE TABLE TicketPayments (
    PaymentID INT,
    PassengerID INT,
    passengerName VARCHAR(50),
    TicketID INT,
    PaymentAmount DECIMAL(10, 2),
    PaymentDate TIMESTAMP,
    PaymentMethod VARCHAR(20),
    CONSTRAINT pk_PaymentID PRIMARY KEY(PaymentID),
    CONSTRAINT fk_passengerNamePayment FOREIGN KEY (passengerID) REFERENCES Passengers (passengerID));

DESCRIBE TicketPayments;
```

Object Type TABLE Object TICKETPAYMENTS								
Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	
TICKETPAYMENTS	PAYMENTID	NUMBER	22	-	0	1	-	
	PASSENGERID	NUMBER	22	-	0	-	✓	
	PASSENGERNAME	VARCHAR2	50	-	-	-	✓	
	TICKETID	NUMBER	22	-	0	-	✓	
	PAYMENTAMOUNT	NUMBER	-	10	2	-	✓	
	PAYMENTMETHOD	VARCHAR2	20	-	-	-	✓	
	PAYMENTDATE	TIMESTAMP(6)	11	-	6	-	✓	

Data Definition Language (DDL): Tables

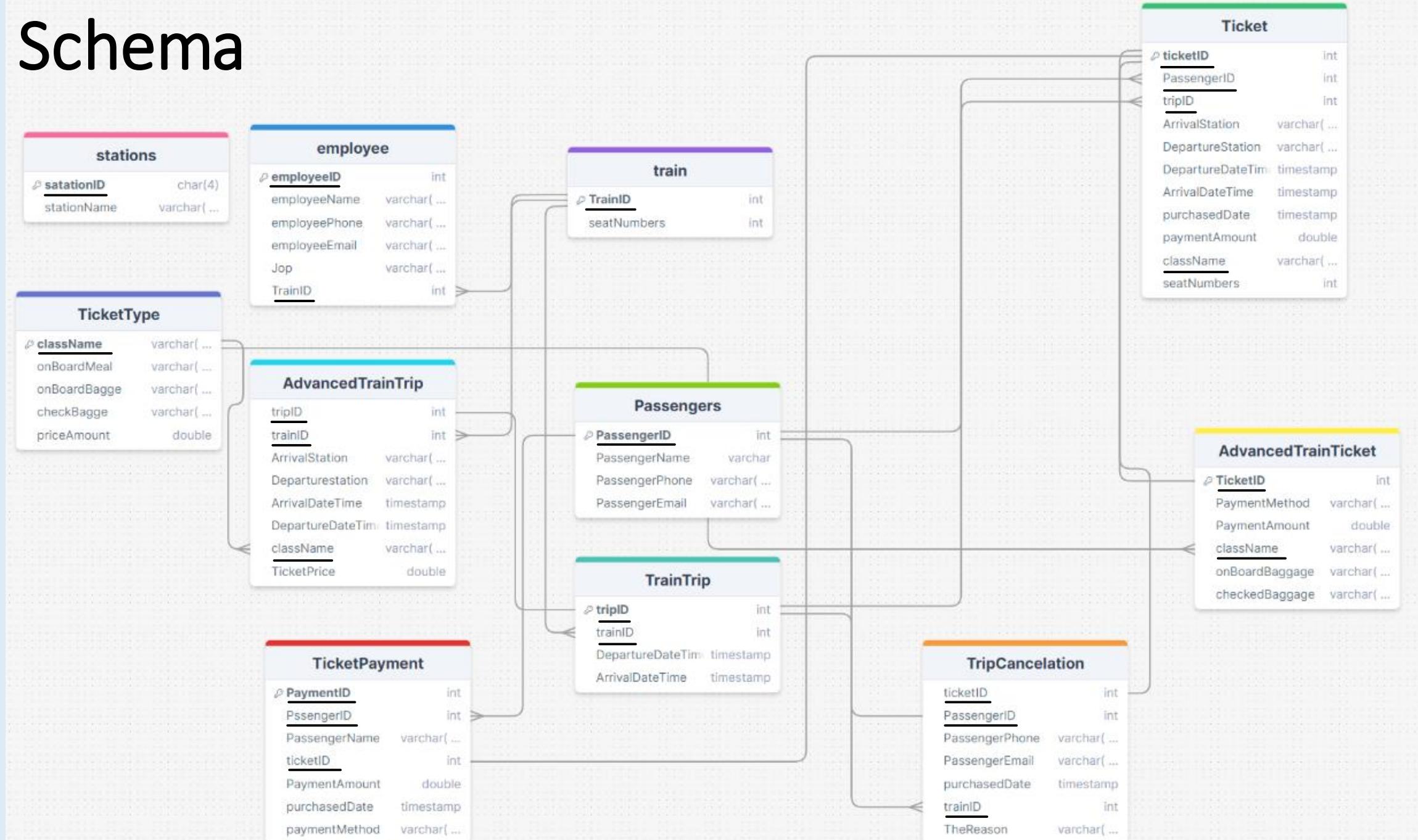
Trip Cancellation Table (SQL commands, attributes, data types, constraints):

```
CREATE TABLE TripCancellation (
    TicketID INT,
    PassengerID INT,
    passengerPhone VARCHAR(50) NOT NULL,
    passengerEmail varchar(50) NOT NULL,
    trainID INT,
    TheReason VARCHAR(100) NOT NULL,
    PurchasedDate TIMESTAMP,
    CONSTRAINT fk_TicketIDCancel FOREIGN KEY (TicketID) REFERENCES Ticket (TicketID),
    CONSTRAINT fk_PassengerIDcancel FOREIGN KEY (PassengerID) REFERENCES Passengers (PassengerID));

DESCRIBE TripCancellation;
```

Object Type TABLE Object TRIPCANCELLATION								
Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	
TRIPCANCELLATION	TICKETID	NUMBER	22	-	0	-	✓	
	PASSENGERID	NUMBER	22	-	0	-	✓	
	PASSENGERPHONE	VARCHAR2	50	-	-	-	-	
	PASSENGEREMAIL	VARCHAR2	50	-	-	-	-	
	TRAINID	NUMBER	22	-	0	-	✓	
	THEREASON	VARCHAR2	100	-	-	-	-	
	PURCHASEDDATE	TIMESTAMP(6)	11	-	6	-	✓	

Schema



Data Definition Language (DDL): Views

Q1- The "train_manager_view" is a view that selects the trainID, employeeName , and employeePhone from the "employee" table where the job is 'Manager'.

SQL VIEW:

```
CREATE VIEW train_manager_view AS
SELECT trainID, employeeName AS managers_name, employeePhone AS manager_phone
FROM employee
WHERE Job = 'Manager'
WITH CHECK OPTION;
```

RESULT:

TRAINID	MANAGERS_NAME	MANAGER_PHONE
110	Nasser Al-Saleh	+966 57 012 3456
111	Nouf Al-Sulaiman	+966 57 678 9012
113	Dana Al-Harbi	+966 50 123 4567
112	Rawan Al-Muhanna	+966 57 345 6789
114	Sara Al-Dakheel	+966 50 789 0123

Data Definition Language (DDL): Views

Q2- The "Trip_Statistics" view that selects trainID ,DepartureStation and ArrivalStation also calculates statistics for train trips, including the trip count, average ticket price, maximum ticket price, and minimum ticket price from "AdvancedTrainTrip" where Ticket Price 100 or higher.

SQL VIEW:

```
CREATE VIEW Trip_Statistics AS
SELECT
    trainID,
    DepartureStation,
    ArrivalStation,
    COUNT(*) AS Trip_Count,
    ROUND(AVG(TicketPrice), 2) AS Average_Ticket_Price,
    MAX(TicketPrice) AS Max_Ticket_Price,
    MIN(TicketPrice) AS Min_Ticket_Price
FROM AdvancedTrainTrip
WHERE TicketPrice >= 100
GROUP BY
    trainID,
    DepartureStation,
    ArrivalStation
WITH CHECK OPTION;
```

Data Definition Language (DDL): Views

Q2- The "Trip_Statistics" view that selects trainID ,DepartureStation and ArrivalStation also calculates statistics for train trips, including the trip count, average ticket price, maximum ticket price, and minimum ticket price from "AdvancedTrainTrip" where Ticket Price 100 or higher.

RESULT:

TRAINID	DEPARTURESTATION	ARRIVALSTATION	TRIP_COUNT	AVERAGE_TICKET_PRICE	MAX_TICKET_PRICE	MIN_TICKET_PRICE
111	Riyadh	Qassim	3	183.33	220	110
114	Riyadh	Qassim	1	110	110	110
112	Riyadh	Madinah	1	330	330	330
114	Dammam	Riyadh	1	330	330	330
112	Madinah	Riyadh	1	110	110	110
110	Riyadh	Dammam	2	110	110	110
113	Riyadh	Madinah	1	110	110	110
113	Qassim	Riyadh	1	110	110	110
114	Madinah	Jeddah	2	165	220	110

Data Definition Language (DDL): Views

Q3- The "RevenueAnalysis" view that selects tripID, DepartureStation and ArrivalStation also calculates revenue analysis for specific train trips and sum the price of Ticket from "AdvancedTrainTrip" where trainID It includes "111,120,110", ORDER BY total revenue in descending order.

SQL VIEW:

```
CREATE VIEW RevenueAnalysis AS
SELECT tripID, DepartureStation, ArrivalStation, COUNT(*) AS Total_Tickets_Sold,
SUM(TicketPrice) AS Total_Revenue
FROM AdvancedTrainTrip
WHERE trainID in (111, 120, 110)
GROUP BY tripID, DepartureStation, ArrivalStation
HAVING COUNT(*) > 1
ORDER BY Total_Revenue DESC
WITH CHECK OPTION;
```

RESULT:

	TRIPID	DEPARTURESTATION	ARRIVALSTATION	TOTAL TICKETS SOLD	TOTAL REVENUE
	2003	Riyadh	Qassim	2	330
	2015	Riyadh	Dammam	2	170

Data Definition Language (DDL): Views

Q4- The "Passengers_info" view combines data from multiple tables to provide information about passengers, their tickets, and relevant trip and station details. It focuses on where tripIDs 2001 and 2003 .

SQL VIEW:

```
CREATE VIEW Passengers_info AS
SELECT
    t.TicketID AS Ticket_Number, t.tripID AS Trip_Number,
    t.DepartureStation AS Departure_Station, t.ArrivalStation AS Arrival_Station,
    t.DepartureDateTime AS Departure, t.ArrivalDateTime AS Arrival,
    t.TicketPrice AS Price, t.className AS Class_Name,
    t.SeatNumbers AS Seat_Number, p.passengerName AS Passenger_Name,
    s.Stationid AS Departure_Station_ID, s2.Stationid AS Arrival_Station_ID
FROM Ticket t
JOIN Passengers p ON t.PassengerID = p.PassengerID
JOIN Stations s ON t.DepartureStation = s.StationName
JOIN Stations s2 ON t.ArrivalStation = s2.StationName
WHERE t.tripID IN(2001, 2003)
WITH CHECK OPTION;
```

Data Definition Language (DDL): Views

Q4- The "Passengers_info" view combines data from multiple tables to provide information about passengers, their tickets, and relevant trip and station details. It focuses on where tripIDs 2001 and 2003 .

RESULT:

TICKET_NUMBER	TRIP_NUMBER	DEPARTURE_STATION	ARRIVAL_STATION	DEPARTURE	ARRIVAL	PRICE	CLASS_NAME	SEAT_NUMBER	PASSENGER_NAME	DEPARTURE_STATION	ARRIVAL_STATION_ID
5057	2003	Riyadh	Qassim	26-MAR-24 09.0	26-MAR-24 11.00.	110	economy	12	Fatima Al-Mutairi	R11	Q11
5058	2003	Riyadh	Qassim	26-MAR-24 09.0	26-MAR-24 11.00.	220	business	1	Sara Al-Rashidi	R11	Q11
5059	2003	Riyadh	Qassim	26-MAR-24 09.0	26-MAR-24 11.00.	110	economy	12	Aisha Al-Ghamdi	R11	Q11
5060	2003	Riyadh	Qassim	26-MAR-24 09.0	26-MAR-24 11.00.	220	business	3	Noura Al-Mansoor	R11	Q11
5001	2001	Riyadh	Dammam	24-MAR-24 09.0	24-MAR-24 11.30.	110	economy	11	Ahmed Al-Farsi	R11	D11
5003	2001	Riyadh	Dammam	24-MAR-24 09.0	24-MAR-24 11.30.	110	economy	13	Abdullah Al-Saud	R11	D11
5005	2001	Riyadh	Dammam	24-MAR-24 09.0	24-MAR-24 11.30.	110	economy	14	Mohammed Al-Harbi	R11	D11
5007	2001	Riyadh	Dammam	24-MAR-24 09.0	24-MAR-24 11.30.	110	economy	15	Khalid Al-Otaibi	R11	D11

Data Definition Language (DDL): Views

Q5- The "canceledTrainDetails" is a view that select Ticket ID , passenger phone , passenger Email, purchase Date , train ID and The reason from "TripCancellation" where purchase Date greater than or equal to 1/1/2024.

SQL VIEW:

```
CREATE VIEW CanceledTripDetails AS
SELECT TicketID, passengerPhone, passengerEmail, PurchasedDate, trainID, TheReason
FROM TripCancellation
WHERE PurchasedDate >= DATE '2024-01-01'
WITH CHECK OPTION;
```

RESULT:

TICKETID	PASSENGERPHONE	PASSENGEREMAIL	PURCHASEDDATE	TRAINID	THEREASON
5001	+966 50 123 4567	ahmed.alfarsi@email.com	05-FEB-24 02.08.00.000000 AM	110	Change plan
5003	+966 59 345 6789	abdullah.saud@email.com	15-MAR-24 04.29.57.000000 AM	110	Personal emergency
5298	+966 58 678 9012	ahmed.mutairi@email.com	13-APR-24 02.25.00.000000 AM	220	Change plan
5299	+966 50 789 0123	rawan.ghanim@email.com	10-APR-24 09.40.00.000000 PM	220	Change plan
5058	+966 55 456 7890	sara.rashidi@email.com	06-MAR-24 08.22.00.000000 AM	220	Personal emergency

Data Manipulation Language (DML): Data Insert

Train Table: (5 records)

```
INSERT ALL
INTO train (trainID, seatnumbers) VALUES (110, 28)
INTO train (trainID, seatnumbers) VALUES (111, 28)
INTO train (trainID, seatnumbers) VALUES (112, 28)
INTO train (trainID, seatnumbers) VALUES (113, 28)
INTO train (trainID, seatnumbers) VALUES (114, 28)
SELECT 1 FROM DUAL;

SELECT * FROM train;
```

TRAINID	SEATNUMBERS
110	28
111	28
112	28
113	28
114	28

Stations Table: (5 records)

```
INSERT ALL
INTO stations (StationID, StationName) VALUES ('Q11', 'Qassim')
INTO stations (StationID, StationName) VALUES ('R11', 'Riyadh')
INTO stations (StationID, StationName) VALUES ('D11', 'Dammam')
INTO stations (StationID, StationName) VALUES ('M11', 'Madinah')
INTO stations (StationID, StationName) VALUES ('J11', 'Jeddah')
SELECT 1 FROM DUAL;

SELECT * FROM stations;
```

STATIONID	STATIONNAME
Q11	Qassim
R11	Riyadh
D11	Dammam
M11	Madinah
J11	Jeddah

Data Manipulation Language (DML): Data Insert

Ticket Type Table: (5 records)

```
INSERT ALL
INTO TicketType (className, OnboardMeal, OnboardBaggage, CheckedBaggage, priceAmount)
VALUES ('economy', 'not free', '10kg', '20kg', 110)
INTO TicketType (className, OnboardMeal, OnboardBaggage, CheckedBaggage, priceAmount)
VALUES ('business', 'free', '10kg', '30kg', 220)
INTO TicketType (className, OnboardMeal, OnboardBaggage, CheckedBaggage, priceAmount)
VALUES ('child ticket', 'not free', '5kg', '20kg', 60)
INTO TicketType (className, OnboardMeal, OnboardBaggage, CheckedBaggage, priceAmount)
VALUES ('first class', 'free', '10kg', '50kg', 330)
INTO TicketType (className, OnboardMeal, OnboardBaggage, CheckedBaggage, priceAmount)
VALUES ('compartment', 'not free', '10kg', '30kg', 90)
SELECT 1 FROM DUAL;

SELECT * FROM TicketType;
```

CLASSNAME	ONBOARDMEAL	ONBOARDBAGGAGE	CHECKEDBAGGAGE	PRICEAMOUNT
economy	not free	10kg	20kg	110
business	free	10kg	30kg	220
child ticket	not free	5kg	20kg	60
first class	free	10kg	50kg	330
compartment	not free	10kg	30kg	90

Data Manipulation Language (DML): Data insert

Employee Table (SQL):

```
INSERT ALL
INTO employee (employeeID, employeeName, employeePhone, employeeEmail, Job, trainID, salary)
VALUES (4000, 'Nasser Al-Saleh', '+966570123456', 'nasser.saleh@email.com', 'Manager', 110, 5000)
INTO employee (employeeID, employeeName, employeePhone, employeeEmail, Job, trainID, salary)
VALUES (4001, 'Lina Al-Otaibi', '+966531234567', 'lina.otaibi@email.com', 'Luggage organizer', 110, 3000)
INTO employee (employeeID, employeeName, employeePhone, employeeEmail, Job, trainID, salary)
VALUES (4002, 'Sara Al-Harbi', '+966562345678', 'sara.harbi@email.com', 'waiter', 110, 2500)
INTO employee (employeeID, employeeName, employeePhone, employeeEmail, Job, trainID, salary)
VALUES (4003, 'Abdulaziz Al-Dosari', '+966583456789', 'abdulaziz.dosari@email.com', 'waiter', 110, 2500)
INTO employee (employeeID, employeeName, employeePhone, employeeEmail, Job, trainID, salary)
VALUES (4004, 'Huda Al-Muhanna', '+966504567890', 'huda.muhanna@email.com', 'waiter', 113, 2500)
INTO employee (employeeID, employeeName, employeePhone, employeeEmail, Job, trainID, salary)
VALUES (4005, 'Fahad Al-Salem', '+966545678901', 'fahad.salem@email.com', 'waiter', 113, 2500)
INTO employee (employeeID, employeeName, employeePhone, employeeEmail, Job, trainID, salary)
VALUES (4006, 'Nouf Al-Sulaiman', '+966576789012', 'nouf.sulaiman@email.com', 'Manager', 111, 5000)
INTO employee (employeeID, employeeName, employeePhone, employeeEmail, Job, trainID, salary)
VALUES (4007, 'Dana Al-Muhaidib', '+966537890123', 'dana.muhamidib@email.com', 'Luggage organizer', 111, 3000)
INTO employee (employeeID, employeeName, employeePhone, employeeEmail, Job, trainID, salary)
VALUES (4008, 'Abdulaziz Al-Shammary', '+9665569012345', 'abdulaziz.shammary@email.com', 'waiter', 111, 2500)
INTO employee (employeeID, employeeName, employeePhone, employeeEmail, Job, trainID, salary)
VALUES (4009, 'Nasser Al-Saif', '+966580123456', 'nasser.saif@email.com', 'waiter', 111, 2500)
INTO employee (employeeID, employeeName, employeePhone, employeeEmail, Job, trainID, salary)
VALUES (4010, 'Dana Al-Harbi', '+966501234567', 'dana.harbi@email.com', 'Manager', 113, 5000)
INTO employee (employeeID, employeeName, employeePhone, employeeEmail, Job, trainID, salary)
VALUES (4011, 'Ibrahim Al-Omari', '+966542345678', 'ibrahim.omari@email.com', 'Luggage organizer', 113, 3000)
INTO employee (employeeID, employeeName, employeePhone, employeeEmail, Job, trainID, salary)
VALUES (4012, 'Rawan Al-Muhanna', '+966573456789', 'rawan.muhanna@email.com', 'Manager', 112, 5000)
INTO employee (employeeID, employeeName, employeePhone, employeeEmail, Job, trainID, salary)
VALUES (4013, 'Nouf Al-Mousa', '+966534567890', 'nouf.mousa@email.com', 'Luggage organizer', 112, 3000)
INTO employee (employeeID, employeeName, employeePhone, employeeEmail, Job, trainID, salary)
VALUES (4014, 'Mohammed Al-Mutairi', '+966565678901', 'mohammed.mutairi@email.com', 'waiter', 112, 2500)
INTO employee (employeeID, employeeName, employeePhone, employeeEmail, Job, trainID, salary)
VALUES (4015, 'Layan Al-Faraj', '+966586789012', 'layan.faraj@email.com', 'waiter', 112, 2500)
INTO employee (employeeID, employeeName, employeePhone, employeeEmail, Job, trainID, salary)
VALUES (4016, 'Sara Al-Dakheel', '+966507890123', 'sara.dakheel@email.com', 'Manager', 114, 5000)
INTO employee (employeeID, employeeName, employeePhone, employeeEmail, Job, trainID, salary)
VALUES (4017, 'Abdulaziz Al-Saud', '+966549012345', 'abdulaziz.saud@email.com', 'Luggage organizer', 114, 3000)
INTO employee (employeeID, employeeName, employeePhone, employeeEmail, Job, trainID, salary)
VALUES (4018, 'Mohammed Al-Suwaidi', '+966565678901', 'mohammed.suwaidi@email.com', 'waiter', 114, 2500)
INTO employee (employeeID, employeeName, employeePhone, employeeEmail, Job, trainID, salary)
VALUES (4019, 'Dana Al-Ruwaili', '+966549012345', 'dana.ruwaili@email.com', 'waiter', 114, 2500)
SELECT 1 FROM DUAL;
```

Table in the
next slide

Data Manipulation Language (DML): Data insert

Employee Table: (20 records)

EDIT	EMPLOYEEID	EMPLOYEENAME	EMPLOYEEPHONE	EMPLOYEEEMAIL	JOB	TRAINID	SALARY
	4000	Nasser Al-Saleh	+966570123456	nasser.saleh@email.com	Manager	110	5000
	4001	Lina Al-Otaibi	+966531234567	lina.otaibi@email.com	Luggage organizer	110	3000
	4002	Sara Al-Harbi	+966562345678	sara.harbi@email.com	waiter	110	2500
	4003	Abdulaziz Al-Dosari	+966583456789	abdulaziz.dosari@email.com	waiter	110	2500
	4004	Huda Al-Muhanna	+966504567890	huda.muhanna@email.com	waiter	113	2500
	4005	Fahad Al-Salem	+966545678901	fahad.salem@email.com	waiter	113	2500
	4006	Nouf Al-Sulaiman	+966576789012	nouf.sulaiman@email.com	Manager	111	5000
	4007	Dana Al-Muhaidib	+966537890123	dana.muhamidib@email.com	Luggage organizer	111	3000
	4008	Abdulaziz Al-Shammari	+966569012345	abdulaziz.shammari@email.com	waiter	111	2500
	4009	Nasser Al-Saif	+966580123456	nasser.saif@email.com	waiter	111	2500
	4010	Dana Al-Harbi	+966501234567	dana.harbi@email.com	Manager	113	5000
	4011	Ibrahim Al-Omari	+966542345678	ibrahim.omari@email.com	Luggage organizer	113	3000
	4012	Rawan Al-Muhanna	+966573456789	rawan.muhanna@email.com	Manager	112	5000
	4013	Nouf Al-Mousa	+966534567890	nouf.mousa@email.com	Luggage organizer	112	3000
	4014	Mohammed Al-Mutairi	+966565678901	mohammed.mutairi@email.com	waiter	112	2500
	4015	Layan Al-Faraj	+966586789012	layan.faraj@email.com	waiter	112	2500
	4016	Sara Al-Dakheel	+966507890123	sara.dakheel@email.com	Manager	114	5000
	4017	Abdulaziz Al-Saud	+966549012345	abdulaziz.saud@email.com	Luggage organizer	114	3000
	4018	Mohammed Al-Suwaidi	+966565678901	mohammed.suwaidi@email.com	waiter	114	2500
	4019	Dana Al-Ruwaili	+966549012345	dana.ruwaili@email.com	waiter	114	2500

Data Manipulation Language (DML): Data insert

Passengers Table (SQL):

```
INSERT ALL
INTO Passengers (PassengerID, passengerName, passengerPhone, passengerEmail, TicketID) VALUES (3001, 'Ahmed Al-Farsi', '+966 50 123 4567', 'ahmed.alfarsi@email.com', 5001)
INTO Passengers (PassengerID, passengerName, passengerPhone, passengerEmail, TicketID) VALUES (3002, 'Fatima Al-Mutairi', '+966 55 234 5678', 'fatima.mutairi@email.com', 5002)
INTO Passengers (PassengerID, passengerName, passengerPhone, passengerEmail, TicketID) VALUES (3003, 'Abdullah Al-Saud', '+966 59 345 6789', 'abdullah.saud@email.com', 5003)
INTO Passengers (PassengerID, passengerName, passengerPhone, passengerEmail, TicketID) VALUES (3004, 'Sara Al-Rashidi', '+966 55 456 7890', 'sara.rashidi@email.com', 5004)
INTO Passengers (PassengerID, passengerName, passengerPhone, passengerEmail, TicketID) VALUES (3005, 'Mohammed Al-Harbi', '+966 50 567 8901', 'mohammed.harbi@email.com', 5005)
INTO Passengers (PassengerID, passengerName, passengerPhone, passengerEmail, TicketID) VALUES (3006, 'Aisha Al-Ghamdi', '+966 54 678 9012', 'aisha.ghamdi@email.com', 5006)
INTO Passengers (PassengerID, passengerName, passengerPhone, passengerEmail, TicketID) VALUES (3007, 'Khalid Al-Otaibi', '+966 56 789 0123', 'khalid.otaibi@email.com', 5007)
INTO Passengers (PassengerID, passengerName, passengerPhone, passengerEmail, TicketID) VALUES (3008, 'Noura Al-Mansoor', '+966 53 890 1234', 'noura.mansoor@email.com', 5008)
INTO Passengers (PassengerID, passengerName, passengerPhone, passengerEmail, TicketID) VALUES (3009, 'Faisal Al-Dosari', '+966 57 901 2345', 'faisal.dosari@email.com', 5009)
INTO Passengers (PassengerID, passengerName, passengerPhone, passengerEmail, TicketID) VALUES (3010, 'Huda Al-Dosari', '+966 57 901 2345', 'faisal.dosari@email.com', 5010)
INTO Passengers (PassengerID, passengerName, passengerPhone, passengerEmail, TicketID) VALUES (3011, 'Abdulaziz Al-Mutlaq', '+966 58 123 4567', 'abdulaziz.mutlaq@email.com', 5011)
INTO Passengers (PassengerID, passengerName, passengerPhone, passengerEmail, TicketID) VALUES (3012, 'Salma Al-Qahtani', '+966 56 234 5678', 'salma.qahtani@email.com', 5012)
INTO Passengers (PassengerID, passengerName, passengerPhone, passengerEmail, TicketID) VALUES (3013, 'Saad Al-Zahrani', '+966 53 345 6789', 'saad.zahrani@email.com', 5013)
INTO Passengers (PassengerID, passengerName, passengerPhone, passengerEmail, TicketID) VALUES (3014, 'Laila Al-Jaber', '+966 50 456 7890', 'laila.jaber@email.com', 5014)
INTO Passengers (PassengerID, passengerName, passengerPhone, passengerEmail, TicketID) VALUES (3015, 'Youssef Al-Ahmadi', '+966 55 567 8901', 'youssef.ahmadi@email.com', 5015)
INTO Passengers (PassengerID, passengerName, passengerPhone, passengerEmail, TicketID) VALUES (3016, 'Reem Al-Abdullah', '+966 54 678 9012', 'reem.abdullah@email.com', 5016)
INTO Passengers (PassengerID, passengerName, passengerPhone, passengerEmail, TicketID) VALUES (3017, 'Fahad Al-Dossary', '+966 57 789 0123', 'fahad.dossary@email.com', 5017)
INTO Passengers (PassengerID, passengerName, passengerPhone, passengerEmail, TicketID) VALUES (3018, 'Amina Al-Zamil', '+966 53 890 1234', 'amina.zamil@email.com', 5018)
INTO Passengers (PassengerID, passengerName, passengerPhone, passengerEmail, TicketID) VALUES (3019, 'Majed Al-Falih', '+966 56 901 2345', 'majed.falih@email.com', 5019)
INTO Passengers (PassengerID, passengerName, passengerPhone, passengerEmail, TicketID) VALUES (3020, 'Hind Al-Sulaimani', '+966 54 012 3456', 'hind.sulaimani@email.com', 5020)
SELECT 1 FROM DUAL;

SELECT * FROM Passengers;
```

Table in the next slide

Data Manipulation Language (DML): Data insert

Passengers Table: (20 records)

PASSENGERID	PASSENGERNAME	PASSENGERPHONE	PASSENGEREMAIL	TICKETID
3001	Ahmed Al-Farsi	+966 50 123 4567	ahmed.alfarsi@email.com	5001
3002	Fatima Al-Mutairi	+966 55 234 5678	fatima.mutairi@email.com	5002
3003	Abdullah Al-Saud	+966 59 345 6789	abdullah.saud@email.com	5003
3004	Sara Al-Rashidi	+966 55 456 7890	sara.rashidi@email.com	5004
3005	Mohammed Al-Harbi	+966 50 567 8901	mohammed.harbi@email.com	5005
3006	Aisha Al-Ghamdi	+966 54 678 9012	aisha.ghamdi@email.com	5006
3007	Khalid Al-Otaibi	+966 56 789 0123	khalid.otaibi@email.com	5007
3008	Noura Al-Mansoor	+966 53 890 1234	noura.mansoor@email.com	5008
3009	Faisal Al-Dosari	+966 57 901 2345	faisal.dosari@email.com	5009
3010	Huda Al-Dosari	+966 57 901 2345	faisal.dosari@email.com	5010
3011	Abdulaziz Al-Mutlaq	+966 58 123 4567	abdulaziz.mutlaq@email.com	5011
3012	Salma Al-Qahtani	+966 56 234 5678	salma.qahtani@email.com	5012
3013	Saad Al-Zahrani	+966 53 345 6789	saad.zahrani@email.com	5013
3014	Laila Al-Jaber	+966 50 456 7890	laila.jaber@email.com	5014
3015	Youssef Al-Ahmadi	+966 55 567 8901	youssef.ahmadi@email.com	5015
3016	Reem Al-Abdullah	+966 54 678 9012	reem.abdullah@email.com	5016
3017	Fahad Al-Dossary	+966 57 789 0123	fahad.dossary@email.com	5017
3018	Amina Al-Zamil	+966 53 890 1234	amina.zamil@email.com	5018
3019	Majed Al-Falih	+966 56 901 2345	majed.falih@email.com	5019
3020	Hind Al-Sulaimani	+966 54 012 3456	hind.sulaimani@email.com	5020

Data Manipulation Language (DML): Data insert

Train Trip Table (SQL):

```
INSERT ALL
  INTO TrainTrip (TripID, trainID, DepartureDateTime, ArrivalDateTime)
    VALUES (2001, 110, TO_TIMESTAMP('3/24/2024 9:00', 'MM/DD/YYYY HH24:MI'), TO_TIMESTAMP('3/24/2024 11:30', 'MM/DD/YYYY HH24:MI'))
  INTO TrainTrip(TripID, trainID, DepartureDateTime, ArrivalDateTime)
    VALUES (2003, 111, TO_TIMESTAMP('3/26/2024 9:00', 'MM/DD/YYYY HH24:MI'), TO_TIMESTAMP('3/26/2024 11:30', 'MM/DD/YYYY HH24:MI'))
  INTO TrainTrip(TripID, trainID, DepartureDateTime, ArrivalDateTime)
    VALUES (2005, 112, TO_TIMESTAMP('4/2/2024 12:00', 'MM/DD/YYYY HH24:MI'), TO_TIMESTAMP('4/2/2024 14:00', 'MM/DD/YYYY HH24:MI'))
  INTO TrainTrip(TripID, trainID, DepartureDateTime, ArrivalDateTime)
    VALUES (2007, 113, TO_TIMESTAMP('4/10/2024 8:00', 'MM/DD/YYYY HH24:MI'), TO_TIMESTAMP('4/10/2024 10:00', 'MM/DD/YYYY HH24:MI'))
  INTO TrainTrip(TripID, trainID, DepartureDateTime, ArrivalDateTime)
    VALUES (2008, 113, TO_TIMESTAMP('4/10/2024 12:00', 'MM/DD/YYYY HH24:MI'), TO_TIMESTAMP('4/10/2024 16:00', 'MM/DD/YYYY HH24:MI'))
  INTO TrainTrip(TripID, trainID, DepartureDateTime, ArrivalDateTime)
    VALUES (2010, 111, TO_TIMESTAMP('4/13/2024 18:00', 'MM/DD/YYYY HH24:MI'), TO_TIMESTAMP('4/13/2024 20:00', 'MM/DD/YYYY HH24:MI'))
  INTO TrainTrip(TripID, trainID, DepartureDateTime, ArrivalDateTime)
    VALUES (2011, 114, TO_TIMESTAMP('5/20/2024', 'MM/DD/YYYY'), TO_TIMESTAMP('5/20/2024 17:30', 'MM/DD/YYYY HH24:MI'))
  INTO TrainTrip(TripID, trainID, DepartureDateTime, ArrivalDateTime)
    VALUES (2012, 114, TO_TIMESTAMP('5/21/2024 15:00', 'MM/DD/YYYY HH24:MI'), TO_TIMESTAMP('5/21/2024 17:30', 'MM/DD/YYYY HH24:MI'))
  INTO TrainTrip(TripID, trainID, DepartureDateTime, ArrivalDateTime)
    VALUES (2014, 112, TO_TIMESTAMP('5/23/2024 13:00', 'MM/DD/YYYY HH24:MI'), TO_TIMESTAMP('5/23/2024 17:00', 'MM/DD/YYYY HH24:MI'))
  INTO TrainTrip(TripID, trainID, DepartureDateTime, ArrivalDateTime)
    VALUES (2015, 110, TO_TIMESTAMP('5/23/2024 19:00', 'MM/DD/YYYY HH24:MI'), TO_TIMESTAMP('5/23/2024 21:00', 'MM/DD/YYYY HH24:MI'))
  INTO TrainTrip(TripID, trainID, DepartureDateTime, ArrivalDateTime)
    VALUES (2017, 114, TO_TIMESTAMP('6/1/2024 12:00', 'MM/DD/YYYY HH24:MI'), TO_TIMESTAMP('6/1/2024 14:30', 'MM/DD/YYYY HH24:MI'))
SELECT 1 FROM DUAL;

SELECT * FROM TrainTrip;
```

Table in the next slide

Data Manipulation Language (DML): Data insert

Train Trip Table: (11 records)

TRIPID	TRAINID	DEPARTUREDATE TIME	ARRIVALDATE TIME
2001	110	24-MAR-24 09.00.00.000000 AM	24-MAR-24 11.30.00.000000 AM
2003	111	26-MAR-24 09.00.00.000000 AM	26-MAR-24 11.30.00.000000 AM
2005	112	02-APR-24 12.00.00.000000 PM	02-APR-24 02.00.00.000000 PM
2007	113	10-APR-24 08.00.00.000000 AM	10-APR-24 10.00.00.000000 AM
2008	113	10-APR-24 12.00.00.000000 PM	10-APR-24 04.00.00.000000 PM
2010	111	13-APR-24 06.00.00.000000 PM	13-APR-24 08.00.00.000000 PM
2011	114	20-MAY-24 12.00.00.000000 AM	20-MAY-24 05.30.00.000000 PM
2012	114	21-MAY-24 03.00.00.000000 PM	21-MAY-24 05.30.00.000000 PM
2014	112	23-MAY-24 01.00.00.000000 PM	23-MAY-24 05.00.00.000000 PM
2015	110	23-MAY-24 07.00.00.000000 PM	23-MAY-24 09.00.00.000000 PM
2017	114	01-JUN-24 12.00.00.000000 PM	01-JUN-24 02.30.00.000000 PM

Data Manipulation Language (DML): Data insert

Advanced Train Trip Table (SQL):

Table in the next slide

```
INSERT ALL  
INTO AdvancedTrainTrip (TripID, trainID, ArrivalStation, DepartureStation, DepartureDateTime, ArrivalDateTime, className, TicketPrice) VALUES (2001, 110, 'Dammam', 'Riyadh',  
TO_TIMESTAMP('24/03/2024 09:00', 'DD/MM/YYYY HH24:MI'), TO_TIMESTAMP('24/03/2024 11:30', 'DD/MM/YYYY HH24:MI'), 'economy', 110)  
INTO AdvancedTrainTrip (TripID, trainID, ArrivalStation, DepartureStation, DepartureDateTime, ArrivalDateTime, className, TicketPrice) VALUES (2003, 111, 'Qassim', 'Riyadh',  
TO_TIMESTAMP('26/03/2024 09:00', 'DD/MM/YYYY HH24:MI'), TO_TIMESTAMP('26/03/2024 11:00', 'DD/MM/YYYY HH24:MI'), 'economy', 110)  
INTO AdvancedTrainTrip (TripID, trainID, ArrivalStation, DepartureStation, DepartureDateTime, ArrivalDateTime, className, TicketPrice) VALUES (2003, 111, 'Qassim', 'Riyadh',  
TO_TIMESTAMP('26/03/2024 09:00', 'DD/MM/YYYY HH24:MI'), TO_TIMESTAMP('26/03/2024 11:00', 'DD/MM/YYYY HH24:MI'), 'business', 220)  
INTO AdvancedTrainTrip (TripID, trainID, ArrivalStation, DepartureStation, DepartureDateTime, ArrivalDateTime, className, TicketPrice) VALUES (2005, 112, 'Madinah', 'Riyadh',  
TO_TIMESTAMP('02/04/2024 12:00', 'DD/MM/YYYY HH24:MI'), TO_TIMESTAMP('02/04/2024 16:00', 'DD/MM/YYYY HH24:MI'), 'first class', 330)  
INTO AdvancedTrainTrip (TripID, trainID, ArrivalStation, DepartureStation, DepartureDateTime, ArrivalDateTime, className, TicketPrice) VALUES (2005, 112, 'Madinah', 'Riyadh',  
TO_TIMESTAMP('02/04/2024 12:00', 'DD/MM/YYYY HH24:MI'), TO_TIMESTAMP('02/04/2024 16:00', 'DD/MM/YYYY HH24:MI'), 'compartment', 90)  
INTO AdvancedTrainTrip (TripID, trainID, ArrivalStation, DepartureStation, DepartureDateTime, ArrivalDateTime, className, TicketPrice) VALUES (2007, 113, 'Riyadh', 'Qassim',  
TO_TIMESTAMP('10/04/2024 08:00', 'DD/MM/YYYY HH24:MI'), TO_TIMESTAMP('10/04/2024 10:00', 'DD/MM/YYYY HH24:MI'), 'economy', 110)  
INTO AdvancedTrainTrip (TripID, trainID, ArrivalStation, DepartureStation, DepartureDateTime, ArrivalDateTime, className, TicketPrice) VALUES (2008, 113, 'Madinah', 'Riyadh',  
TO_TIMESTAMP('10/04/2024 12:00', 'DD/MM/YYYY HH24:MI'), TO_TIMESTAMP('10/04/2024 16:00', 'DD/MM/YYYY HH24:MI'), 'economy', 110)  
INTO AdvancedTrainTrip (TripID, trainID, ArrivalStation, DepartureStation, DepartureDateTime, ArrivalDateTime, className, TicketPrice) VALUES (2010, 111, 'Qassim', 'Riyadh',  
TO_TIMESTAMP('13/04/2024 18:00', 'DD/MM/YYYY HH24:MI'), TO_TIMESTAMP('13/04/2024 20:00', 'DD/MM/YYYY HH24:MI'), 'business', 220)  
INTO AdvancedTrainTrip (TripID, trainID, ArrivalStation, DepartureStation, DepartureDateTime, ArrivalDateTime, className, TicketPrice) VALUES (2011, 114, 'Riyadh', 'Dammam',  
TO_TIMESTAMP('20/05/2024 15:00', 'DD/MM/YYYY HH24:MI'), TO_TIMESTAMP('20/05/2024 17:30', 'DD/MM/YYYY HH24:MI'), 'first class', 330)  
INTO AdvancedTrainTrip (TripID, trainID, ArrivalStation, DepartureStation, DepartureDateTime, ArrivalDateTime, className, TicketPrice) VALUES (2012, 114, 'Qassim', 'Riyadh',  
TO_TIMESTAMP('21/05/2024 15:00', 'DD/MM/YYYY HH24:MI'), TO_TIMESTAMP('21/05/2024 17:30', 'DD/MM/YYYY HH24:MI'), 'economy', 110)  
INTO AdvancedTrainTrip (TripID, trainID, ArrivalStation, DepartureStation, DepartureDateTime, ArrivalDateTime, className, TicketPrice) VALUES (2012, 114, 'Qassim', 'Riyadh',  
TO_TIMESTAMP('21/05/2024 15:00', 'DD/MM/YYYY HH24:MI'), TO_TIMESTAMP('21/05/2024 17:30', 'DD/MM/YYYY HH24:MI'), 'chiled Ticket', 60)  
INTO AdvancedTrainTrip (TripID, trainID, ArrivalStation, DepartureStation, DepartureDateTime, ArrivalDateTime, className, TicketPrice) VALUES (2014, 112, 'Riyadh', 'Madinah',  
TO_TIMESTAMP('23/05/2024 13:00', 'DD/MM/YYYY HH24:MI'), TO_TIMESTAMP('23/05/2024 17:00', 'DD/MM/YYYY HH24:MI'), 'economy', 110)  
INTO AdvancedTrainTrip (TripID, trainID, ArrivalStation, DepartureStation, DepartureDateTime, ArrivalDateTime, className, TicketPrice) VALUES (2014, 112, 'Riyadh', 'Madinah',  
TO_TIMESTAMP('23/05/2024 13:00', 'DD/MM/YYYY HH24:MI'), TO_TIMESTAMP('23/05/2024 17:00', 'DD/MM/YYYY HH24:MI'), 'compartment', 90)  
INTO AdvancedTrainTrip (TripID, trainID, ArrivalStation, DepartureStation, DepartureDateTime, ArrivalDateTime, className, TicketPrice) VALUES (2015, 110, 'Dammam', 'Riyadh',  
TO_TIMESTAMP('23/05/2024 19:00', 'DD/MM/YYYY HH24:MI'), TO_TIMESTAMP('23/05/2024 21:30', 'DD/MM/YYYY HH24:MI'), 'economy', 110)  
INTO AdvancedTrainTrip (TripID, trainID, ArrivalStation, DepartureStation, DepartureDateTime, ArrivalDateTime, className, TicketPrice) VALUES (2015, 110, 'Dammam', 'Riyadh',  
TO_TIMESTAMP('23/05/2024 19:00', 'DD/MM/YYYY HH24:MI'), TO_TIMESTAMP('23/05/2024 21:30', 'DD/MM/YYYY HH24:MI'), 'chiled Ticket', 60)  
INTO AdvancedTrainTrip (TripID, trainID, ArrivalStation, DepartureStation, DepartureDateTime, ArrivalDateTime, className, TicketPrice) VALUES (2017, 114, 'Jeddah', 'Madinah',  
TO_TIMESTAMP('01/06/2024 12:00', 'DD/MM/YYYY HH24:MI'), TO_TIMESTAMP('01/06/2024 14:30', 'DD/MM/YYYY HH24:MI'), 'economy', 110)  
INTO AdvancedTrainTrip (TripID, trainID, ArrivalStation, DepartureStation, DepartureDateTime, ArrivalDateTime, className, TicketPrice) VALUES (2017, 114, 'Jeddah', 'Madinah',  
TO_TIMESTAMP('01/06/2024 12:00', 'DD/MM/YYYY HH24:MI'), TO_TIMESTAMP('01/06/2024 14:30', 'DD/MM/YYYY HH24:MI'), 'business', 220)  
SELECT 1 FROM DUAL;
```

Data Manipulation Language (DML): Data insert

Advanced Train Trip Table: (17 records)

TRIPID	TRAINID	ARRIVALSTATION	DEPARTURESTATION	DEPARTUREDATETIME	ARRIVEDATETIME	CLASSNAME	TICKETPRICE
2001	110	Dammam	Riyadh	24-MAR-24 09.00.00.000000 AM	24-MAR-24 11.30.00.000000 AM	economy	110
2003	111	Qassim	Riyadh	26-MAR-24 09.00.00.000000 AM	26-MAR-24 11.00.00.000000 AM	economy	110
2003	111	Qassim	Riyadh	26-MAR-24 09.00.00.000000 AM	26-MAR-24 11.00.00.000000 AM	business	220
2005	112	Madinah	Riyadh	02-APR-24 12.00.00.000000 PM	02-APR-24 04.00.00.000000 PM	first class	330
2005	112	Madinah	Riyadh	02-APR-24 12.00.00.000000 PM	02-APR-24 04.00.00.000000 PM	compartment	90
2007	113	Riyadh	Qassim	10-APR-24 08.00.00.000000 AM	10-APR-24 10.00.00.000000 AM	economy	110
2008	113	Madinah	Riyadh	10-APR-24 12.00.00.000000 PM	10-APR-24 04.00.00.000000 PM	economy	110
2010	111	Qassim	Riyadh	13-APR-24 06.00.00.000000 PM	13-APR-24 08.00.00.000000 PM	business	220
2011	114	Riyadh	Dammam	20-MAY-24 03.00.00.000000 PM	20-MAY-24 05.30.00.000000 PM	first class	330
2012	114	Qassim	Riyadh	21-MAY-24 03.00.00.000000 PM	21-MAY-24 05.30.00.000000 PM	economy	110
2012	114	Qassim	Riyadh	21-MAY-24 03.00.00.000000 PM	21-MAY-24 05.30.00.000000 PM	chiled Ticket	60
2014	112	Riyadh	Madinah	23-MAY-24 01.00.00.000000 PM	23-MAY-24 05.00.00.000000 PM	economy	110
2014	112	Riyadh	Madinah	23-MAY-24 01.00.00.000000 PM	23-MAY-24 05.00.00.000000 PM	compartment	90
2015	110	Dammam	Riyadh	23-MAY-24 07.00.00.000000 PM	23-MAY-24 09.30.00.000000 PM	economy	110
2015	110	Dammam	Riyadh	23-MAY-24 07.00.00.000000 PM	23-MAY-24 09.30.00.000000 PM	chiled Ticket	60
2017	114	Jeddah	Madinah	01-JUN-24 12.00.00.000000 PM	01-JUN-24 02.30.00.000000 PM	economy	110
2017	114	Jeddah	Madinah	01-JUN-24 12.00.00.000000 PM	01-JUN-24 02.30.00.000000 PM	business	220

Data Manipulation Language (DML): Data insert

Ticket Table (SQL):

```
INSERT ALL
INTO Ticket (TicketID, PassengerID, tripID, ArrivalStation, DepartureStation, DepartureDateTime, ArrivalDateTime, PurchasedDate, TicketPrice, className, seatnumbers)
VALUES (5001, 3001, 2001, 'Dammam', 'Riyadh', TO_TIMESTAMP('2024-03-24 09:00:00', 'YYYY-MM-DD HH24:MI:SS'), TO_TIMESTAMP('2024-03-24 11:30:00', 'YYYY-MM-DD HH24:MI:SS'), TO_TIMESTAMP('2024-02-05 02:08:00', 'YYYY-MM-DD HH24:MI:SS'), 110, 'economy', 11)
INTO Ticket (TicketID, PassengerID, tripID, ArrivalStation, DepartureStation, DepartureDateTime, ArrivalDateTime, PurchasedDate, TicketPrice, className, seatnumbers)
VALUES (5003, 3003, 2001, 'Dammam', 'Riyadh', TO_TIMESTAMP('2024-03-24 09:00:00', 'YYYY-MM-DD HH24:MI:SS'), TO_TIMESTAMP('2024-03-24 11:30:00', 'YYYY-MM-DD HH24:MI:SS'), TO_TIMESTAMP('2024-03-15 04:29:00', 'YYYY-MM-DD HH24:MI:SS'), 110, 'economy', 13)
INTO Ticket (TicketID, PassengerID, tripID, ArrivalStation, DepartureStation, DepartureDateTime, ArrivalDateTime, PurchasedDate, TicketPrice, className, seatnumbers)
VALUES (5005, 3005, 2001, 'Dammam', 'Riyadh', TO_TIMESTAMP('2024-03-24 09:00:00', 'YYYY-MM-DD HH24:MI:SS'), TO_TIMESTAMP('2024-03-24 11:30:00', 'YYYY-MM-DD HH24:MI:SS'), TO_TIMESTAMP('2024-03-24 00:30:00', 'YYYY-MM-DD HH24:MI:SS'), 110, 'economy', 14)
INTO Ticket (TicketID, PassengerID, tripID, ArrivalStation, DepartureStation, DepartureDateTime, ArrivalDateTime, PurchasedDate, TicketPrice, className, seatnumbers)
VALUES (5007, 3007, 2001, 'Dammam', 'Riyadh', TO_TIMESTAMP('2024-03-24 09:00:00', 'YYYY-MM-DD HH24:MI:SS'), TO_TIMESTAMP('2024-03-24 11:30:00', 'YYYY-MM-DD HH24:MI:SS'), TO_TIMESTAMP('2024-02-22 06:25:00', 'YYYY-MM-DD HH24:MI:SS'), 110, 'economy', 15)
INTO Ticket (TicketID, PassengerID, tripID, ArrivalStation, DepartureStation, DepartureDateTime, ArrivalDateTime, PurchasedDate, TicketPrice, className, seatnumbers)
VALUES (5057, 3002, 2003, 'Qassim', 'Riyadh', TO_TIMESTAMP('2024-03-26 09:00:00', 'YYYY-MM-DD HH24:MI:SS'), TO_TIMESTAMP('2024-03-26 11:00:00', 'YYYY-MM-DD HH24:MI:SS'), TO_TIMESTAMP('2024-02-05 04:18:00', 'YYYY-MM-DD HH24:MI:SS'), 110, 'economy', 12)
INTO Ticket (TicketID, PassengerID, tripID, ArrivalStation, DepartureStation, DepartureDateTime, ArrivalDateTime, PurchasedDate, TicketPrice, className, seatnumbers)
VALUES (5058, 3004, 2003, 'Qassim', 'Riyadh', TO_TIMESTAMP('2024-03-26 09:00:00', 'YYYY-MM-DD HH24:MI:SS'), TO_TIMESTAMP('2024-03-26 11:00:00', 'YYYY-MM-DD HH24:MI:SS'), TO_TIMESTAMP('2024-03-06 08:22:00', 'YYYY-MM-DD HH24:MI:SS'), 220, 'business', 1)
INTO Ticket (TicketID, PassengerID, tripID, ArrivalStation, DepartureStation, DepartureDateTime, ArrivalDateTime, PurchasedDate, TicketPrice, className, seatnumbers)
VALUES (5059, 3006, 2003, 'Qassim', 'Riyadh', TO_TIMESTAMP('2024-03-26 09:00:00', 'YYYY-MM-DD HH24:MI:SS'), TO_TIMESTAMP('2024-03-26 11:00:00', 'YYYY-MM-DD HH24:MI:SS'), TO_TIMESTAMP('2024-02-16 07:56:00', 'YYYY-MM-DD HH24:MI:SS'), 110, 'economy', 12)
INTO Ticket (TicketID, PassengerID, tripID, ArrivalStation, DepartureStation, DepartureDateTime, ArrivalDateTime, PurchasedDate, TicketPrice, className, seatnumbers)
VALUES (5060, 3008, 2003, 'Qassim', 'Riyadh', TO_TIMESTAMP('2024-03-26 09:00:00', 'YYYY-MM-DD HH24:MI:SS'), TO_TIMESTAMP('2024-03-26 11:00:00', 'YYYY-MM-DD HH24:MI:SS'), TO_TIMESTAMP('2024-03-15 06:25:00', 'YYYY-MM-DD HH24:MI:SS'), 220, 'business', 3)
INTO Ticket (TicketID, PassengerID, tripID, ArrivalStation, DepartureStation, DepartureDateTime, ArrivalDateTime, PurchasedDate, TicketPrice, className, seatnumbers)
VALUES (5113, 3015, 2005, 'Madinah', 'Riyadh', TO_TIMESTAMP('2024-02-04 12:00:00', 'YYYY-MM-DD HH24:MI:SS'), TO_TIMESTAMP('2024-02-04 16:00:00', 'YYYY-MM-DD HH24:MI:SS'), TO_TIMESTAMP('2024-03-22 01:27:00', 'YYYY-MM-DD HH24:MI:SS'), 330, 'first class', 8)
INTO Ticket (TicketID, PassengerID, tripID, ArrivalStation, DepartureStation, DepartureDateTime, ArrivalDateTime, PurchasedDate, TicketPrice, className, seatnumbers)
VALUES (5114, 3011, 2005, 'Madinah', 'Riyadh', TO_TIMESTAMP('2024-02-04 12:00:00', 'YYYY-MM-DD HH24:MI:SS'), TO_TIMESTAMP('2024-02-04 16:00:00', 'YYYY-MM-DD HH24:MI:SS'), TO_TIMESTAMP('2024-03-29 03:51:00', 'YYYY-MM-DD HH24:MI:SS'), 90, 'compartment', 17)
INTO Ticket (TicketID, PassengerID, tripID, ArrivalStation, DepartureStation, DepartureDateTime, ArrivalDateTime, PurchasedDate, TicketPrice, className, seatnumbers)
VALUES (5115, 3020, 2005, 'Madinah', 'Riyadh', TO_TIMESTAMP('2024-02-04 12:00:00', 'YYYY-MM-DD HH24:MI:SS'), TO_TIMESTAMP('2024-02-04 16:00:00', 'YYYY-MM-DD HH24:MI:SS'), TO_TIMESTAMP('2024-03-21 04:39:00', 'YYYY-MM-DD HH24:MI:SS'), 330, 'first class', 9)
INTO Ticket (TicketID, PassengerID, tripID, ArrivalStation, DepartureStation, DepartureDateTime, ArrivalDateTime, PurchasedDate, TicketPrice, className, seatnumbers)
VALUES (5116, 3016, 2005, 'Madinah', 'Riyadh', TO_TIMESTAMP('2024-02-04 12:00:00', 'YYYY-MM-DD HH24:MI:SS'), TO_TIMESTAMP('2024-02-04 16:00:00', 'YYYY-MM-DD HH24:MI:SS'), TO_TIMESTAMP('2024-02-28 00:14:00', 'YYYY-MM-DD HH24:MI:SS'), 90, 'compartment', 19)
```

Data Manipulation Language (DML): Data insert

Ticket Table (SQL): (continued)

```
INTO Ticket (TicketID, PassengerID, tripID, ArrivalStation, DepartureStation, DepartureDateTime, ArrivalDateTime, PurchasedDate, TicketPrice, className, seatnumbers)
VALUES (5141, 3009, 2007, 'Riyadh', 'Qassim', TO_TIMESTAMP('2024-10-04 08:00:00', 'YYYY-MM-DD HH24:MI:SS'), TO_TIMESTAMP('2024-10-04 10:00:00', 'YYYY-MM-DD HH24:MI:SS'), TO_TIMESTAMP('2024-03-21 14:20:00', 'YYYY-MM-DD HH24:MI:SS'), 110, 'economy', 11)

INTO Ticket (TicketID, PassengerID, tripID, ArrivalStation, DepartureStation, DepartureDateTime, ArrivalDateTime, PurchasedDate, TicketPrice, className, seatnumbers)
VALUES (5143, 3018, 2007, 'Riyadh', 'Qassim', TO_TIMESTAMP('2024-10-04 08:00:00', 'YYYY-MM-DD HH24:MI:SS'), TO_TIMESTAMP('2024-10-04 10:00:00', 'YYYY-MM-DD HH24:MI:SS'), TO_TIMESTAMP('2024-03-24 09:55:00', 'YYYY-MM-DD HH24:MI:SS'), 110, 'economy', 13)

INTO Ticket (TicketID, PassengerID, tripID, ArrivalStation, DepartureStation, DepartureDateTime, ArrivalDateTime, PurchasedDate, TicketPrice, className, seatnumbers)
VALUES (5145, 3019, 2007, 'Riyadh', 'Qassim', TO_TIMESTAMP('2024-10-04 08:00:00', 'YYYY-MM-DD HH24:MI:SS'), TO_TIMESTAMP('2024-10-04 10:00:00', 'YYYY-MM-DD HH24:MI:SS'), TO_TIMESTAMP('2024-03-29 13:10:00', 'YYYY-MM-DD HH24:MI:SS'), 110, 'economy', 14)

INTO Ticket (TicketID, PassengerID, tripID, ArrivalStation, DepartureStation, DepartureDateTime, ArrivalDateTime, PurchasedDate, TicketPrice, className, seatnumbers)
VALUES (5147, 3020, 2007, 'Riyadh', 'Qassim', TO_TIMESTAMP('2024-10-04 08:00:00', 'YYYY-MM-DD HH24:MI:SS'), TO_TIMESTAMP('2024-10-04 10:00:00', 'YYYY-MM-DD HH24:MI:SS'), TO_TIMESTAMP('2024-02-04 20:15:00', 'YYYY-MM-DD HH24:MI:SS'), 110, 'economy', 15)

INTO Ticket (TicketID, PassengerID, tripID, ArrivalStation, DepartureStation, DepartureDateTime, ArrivalDateTime, PurchasedDate, TicketPrice, className, seatnumbers)
VALUES (5186, 3006, 2011, 'Riyadh', 'Dammam', TO_TIMESTAMP('2024-05-20 15:00:00', 'YYYY-MM-DD HH24:MI:SS'), TO_TIMESTAMP('2024-05-20 17:30:00', 'YYYY-MM-DD HH24:MI:SS'), TO_TIMESTAMP('2024-09-05 09:27:00', 'YYYY-MM-DD HH24:MI:SS'), 330, 'first class', 6)

INTO Ticket (TicketID, PassengerID, tripID, ArrivalStation, DepartureStation, DepartureDateTime, ArrivalDateTime, PurchasedDate, TicketPrice, className, seatnumbers)
VALUES (5188, 3015, 2011, 'Riyadh', 'Dammam', TO_TIMESTAMP('2024-05-20 15:00:00', 'YYYY-MM-DD HH24:MI:SS'), TO_TIMESTAMP('2024-05-20 17:30:00', 'YYYY-MM-DD HH24:MI:SS'), TO_TIMESTAMP('2024-05-14 11:48:00', 'YYYY-MM-DD HH24:MI:SS'), 330, 'first class', 10)

INTO Ticket (TicketID, PassengerID, tripID, ArrivalStation, DepartureStation, DepartureDateTime, ArrivalDateTime, PurchasedDate, TicketPrice, className, seatnumbers)
VALUES (5190, 3007, 2011, 'Riyadh', 'Dammam', TO_TIMESTAMP('2024-05-20 15:00:00', 'YYYY-MM-DD HH24:MI:SS'), TO_TIMESTAMP('2024-05-20 17:30:00', 'YYYY-MM-DD HH24:MI:SS'), TO_TIMESTAMP('2024-04-20 10:36:00', 'YYYY-MM-DD HH24:MI:SS'), 330, 'first class', 7)

INTO Ticket (TicketID, PassengerID, tripID, ArrivalStation, DepartureStation, DepartureDateTime, ArrivalDateTime, PurchasedDate, TicketPrice, className, seatnumbers)
VALUES (5192, 3020, 2011, 'Riyadh', 'Dammam', TO_TIMESTAMP('2024-05-20 15:00:00', 'YYYY-MM-DD HH24:MI:SS'), TO_TIMESTAMP('2024-05-20 17:30:00', 'YYYY-MM-DD HH24:MI:SS'), TO_TIMESTAMP('2024-05-06 06:22:00', 'YYYY-MM-DD HH24:MI:SS'), 330, 'first class', 8)

INTO Ticket (TicketID, PassengerID, tripID, ArrivalStation, DepartureStation, DepartureDateTime, ArrivalDateTime, PurchasedDate, TicketPrice, className, seatnumbers)
VALUES (5193, 3008, 2012, 'Qassim', 'Riyadh', TO_TIMESTAMP('2024-05-21 15:00:00', 'YYYY-MM-DD HH24:MI:SS'), TO_TIMESTAMP('2024-05-21 17:30:00', 'YYYY-MM-DD HH24:MI:SS'), TO_TIMESTAMP('2024-05-15 10:23:00', 'YYYY-MM-DD HH24:MI:SS'), 110, 'economy', 13)

INTO Ticket (TicketID, PassengerID, tripID, ArrivalStation, DepartureStation, DepartureDateTime, ArrivalDateTime, PurchasedDate, TicketPrice, className, seatnumbers)
VALUES (5194, 3004, 2012, 'Qassim', 'Riyadh', TO_TIMESTAMP('2024-05-21 15:00:00', 'YYYY-MM-DD HH24:MI:SS'), TO_TIMESTAMP('2024-05-21 17:30:00', 'YYYY-MM-DD HH24:MI:SS'), TO_TIMESTAMP('2024-05-07 08:15:00', 'YYYY-MM-DD HH24:MI:SS'), 60, 'chiled Ticket', 21)

INTO Ticket (TicketID, PassengerID, tripID, ArrivalStation, DepartureStation, DepartureDateTime, ArrivalDateTime, PurchasedDate, TicketPrice, className, seatnumbers)
VALUES (5195, 3016, 2012, 'Qassim', 'Riyadh', TO_TIMESTAMP('2024-05-21 15:00:00', 'YYYY-MM-DD HH24:MI:SS'), TO_TIMESTAMP('2024-05-21 17:30:00', 'YYYY-MM-DD HH24:MI:SS'), TO_TIMESTAMP('2024-05-11 14:48:00', 'YYYY-MM-DD HH24:MI:SS'), 110, 'economy', 13)

INTO Ticket (TicketID, PassengerID, tripID, ArrivalStation, DepartureStation, DepartureDateTime, ArrivalDateTime, PurchasedDate, TicketPrice, className, seatnumbers)
VALUES (5196, 3005, 2012, 'Qassim', 'Riyadh', TO_TIMESTAMP('2024-05-21 15:00:00', 'YYYY-MM-DD HH24:MI:SS'), TO_TIMESTAMP('2024-05-21 17:30:00', 'YYYY-MM-DD HH24:MI:SS'), TO_TIMESTAMP('2024-04-29 13:52:00', 'YYYY-MM-DD HH24:MI:SS'), 220, 'economy', 11)
```

Data Manipulation Language (DML): Data insert

Ticket Table (SQL): (continued)

Table in the next slide

```
INTO Ticket (TicketID, PassengerID, tripID, ArrivalStation, DepartureStation, DepartureDateTime, ArrivalDateTime, PurchasedDate, TicketPrice, className, seatnumbers)
VALUES (5217, 3012, 2014, 'Riyadh', 'Madinah', TO_TIMESTAMP('2024-05-23 13:00:00', 'YYYY-MM-DD HH24:MI:SS'), TO_TIMESTAMP('2024-05-23 17:00:00', 'YYYY-MM-DD HH24:MI:SS'), TO_TIMESTAMP('2024-05-09 10:53:00', 'YYYY-MM-DD HH24:MI:SS'), 110, 'economy', 11)
INTO Ticket (TicketID, PassengerID, tripID, ArrivalStation, DepartureStation, DepartureDateTime, ArrivalDateTime, PurchasedDate, TicketPrice, className, seatnumbers)
VALUES (5218, 3008, 2014, 'Riyadh', 'Madinah', TO_TIMESTAMP('2024-05-23 13:00:00', 'YYYY-MM-DD HH24:MI:SS'), TO_TIMESTAMP('2024-05-23 17:00:00', 'YYYY-MM-DD HH24:MI:SS'), TO_TIMESTAMP('2024-04-28 12:42:00', 'YYYY-MM-DD HH24:MI:SS'), 90, 'compartment', 18)
INTO Ticket (TicketID, PassengerID, tripID, ArrivalStation, DepartureStation, DepartureDateTime, ArrivalDateTime, PurchasedDate, TicketPrice, className, seatnumbers)
VALUES (5219, 3019, 2014, 'Riyadh', 'Madinah', TO_TIMESTAMP('2024-05-23 13:00:00', 'YYYY-MM-DD HH24:MI:SS'), TO_TIMESTAMP('2024-05-23 17:00:00', 'YYYY-MM-DD HH24:MI:SS'), TO_TIMESTAMP('2024-04-28 02:51:00', 'YYYY-MM-DD HH24:MI:SS'), 330, 'first class', 13)
INTO Ticket (TicketID, PassengerID, tripID, ArrivalStation, DepartureStation, DepartureDateTime, ArrivalDateTime, PurchasedDate, TicketPrice, className, seatnumbers)
VALUES (5220, 3020, 2014, 'Riyadh', 'Madinah', TO_TIMESTAMP('23/05/2024 13:00', 'DD/MM/YYYY HH24:MI'), TO_TIMESTAMP('23/05/2024 17:00', 'DD/MM/YYYY HH24:MI'), TO_TIMESTAMP('29/04/2024 09:19', 'DD/MM/YYYY HH24:MI'), 90, 'compartment', 16)
INTO Ticket (TicketID, PassengerID, tripID, ArrivalStation, DepartureStation, DepartureDateTime, ArrivalDateTime, PurchasedDate, TicketPrice, className, seatnumbers)
VALUES (5221, 3001, 2014, 'Riyadh', 'Madinah', TO_TIMESTAMP('23/05/2024 13:00', 'DD/MM/YYYY HH24:MI'), TO_TIMESTAMP('23/05/2024 17:00', 'DD/MM/YYYY HH24:MI'), TO_TIMESTAMP('25/04/2024 11:25', 'DD/MM/YYYY HH24:MI'), 110, 'economy', 11)
INTO Ticket (TicketID, PassengerID, tripID, ArrivalStation, DepartureStation, DepartureDateTime, ArrivalDateTime, PurchasedDate, TicketPrice, className, seatnumbers)
VALUES (5273, 3001, 2015, 'Dammam', 'Riyadh', TO_TIMESTAMP('23/05/2024 19:01', 'DD/MM/YYYY HH24:MI'), TO_TIMESTAMP('23/05/2024 21:31', 'DD/MM/YYYY HH24:MI'), TO_TIMESTAMP('20/04/2024 22:15', 'DD/MM/YYYY HH24:MI'), 110, 'economy', 14)
INTO Ticket (TicketID, PassengerID, tripID, ArrivalStation, DepartureStation, DepartureDateTime, ArrivalDateTime, PurchasedDate, TicketPrice, className, seatnumbers)
VALUES (5274, 3010, 2015, 'Dammam', 'Riyadh', TO_TIMESTAMP('23/05/2024 19:02', 'DD/MM/YYYY HH24:MI'), TO_TIMESTAMP('23/05/2024 21:32', 'DD/MM/YYYY HH24:MI'), TO_TIMESTAMP('22/04/2024 09:00', 'DD/MM/YYYY HH24:MI'), 60, 'chilledTicket', 21)
INTO Ticket (TicketID, PassengerID, tripID, ArrivalStation, DepartureStation, DepartureDateTime, ArrivalDateTime, PurchasedDate, TicketPrice, className, seatnumbers)
VALUES (5279, 3009, 2015, 'Dammam', 'Riyadh', TO_TIMESTAMP('23/05/2024 19:07', 'DD/MM/YYYY HH24:MI'), TO_TIMESTAMP('23/05/2024 21:37', 'DD/MM/YYYY HH24:MI'), TO_TIMESTAMP('4/5/2024 07:10', 'DD/MM/YYYY HH24:MI'), 110, 'economy', 12)
INTO Ticket (TicketID, PassengerID, tripID, ArrivalStation, DepartureStation, DepartureDateTime, ArrivalDateTime, PurchasedDate, TicketPrice, className, seatnumbers)
VALUES (5295, 3015, 2017, 'Jeddah', 'Madinah', TO_TIMESTAMP('1/6/2024 12:00', 'DD/MM/YYYY HH24:MI'), TO_TIMESTAMP('1/6/2024 14:30', 'DD/MM/YYYY HH24:MI'), TO_TIMESTAMP('11/4/2024 9:30', 'DD/MM/YYYY HH24:MI'), 110, 'economy', 13)
INTO Ticket (TicketID, PassengerID, tripID, ArrivalStation, DepartureStation, DepartureDateTime, ArrivalDateTime, PurchasedDate, TicketPrice, className, seatnumbers)
VALUES (5297, 3018, 2017, 'Jeddah', 'Madinah', TO_TIMESTAMP('1/6/2024 12:00', 'DD/MM/YYYY HH24:MI'), TO_TIMESTAMP('1/6/2024 14:30', 'DD/MM/YYYY HH24:MI'), TO_TIMESTAMP('29/3/2024 3:56', 'DD/MM/YYYY HH24:MI'), 110, 'economy', 12)
INTO Ticket (TicketID, PassengerID, tripID, ArrivalStation, DepartureStation, DepartureDateTime, ArrivalDateTime, PurchasedDate, TicketPrice, className, seatnumbers)
VALUES (5298, 3003, 2017, 'Jeddah', 'Madinah', TO_TIMESTAMP('1/6/2024 12:00', 'DD/MM/YYYY HH24:MI'), TO_TIMESTAMP('1/6/2024 14:30', 'DD/MM/YYYY HH24:MI'), TO_TIMESTAMP('13/4/2024 2:25', 'DD/MM/YYYY HH24:MI'), 220, 'business', 2)
INTO Ticket (TicketID, PassengerID, tripID, ArrivalStation, DepartureStation, DepartureDateTime, ArrivalDateTime, PurchasedDate, TicketPrice, className, seatnumbers)
VALUES (5299, 3011, 2017, 'Jeddah', 'Madinah', TO_TIMESTAMP('1/6/2024 12:00', 'DD/MM/YYYY HH24:MI'), TO_TIMESTAMP('1/6/2024 14:30', 'DD/MM/YYYY HH24:MI'), TO_TIMESTAMP('18/3/2024 10:20', 'DD/MM/YYYY HH24:MI'), 220, 'business', 4)
SELECT * FROM dual;
```

Data Manipulation Language (DML): Data insert

Ticket Table: (37 records)

Ticketid	Passengerid	Tripid	Arrivalstation	Departurestation	Departuredatetime	Arrivaldatetime	Purchaseddate	Classname	Seatnumbers
5001	3001	2001	Dammam	Riyadh	24-MAR-24 09.00.00.000000 AM	24-MAR-24 11.30.00.000000 AM	05-FEB-24 02.08.00.000000 AM	economy	11
5003	3003	2001	Dammam	Riyadh	24-MAR-24 09.00.00.000000 AM	24-MAR-24 11.30.00.000000 AM	15-MAR-24 04.29.00.000000 AM	economy	13
5005	3005	2001	Dammam	Riyadh	24-MAR-24 09.00.00.000000 AM	24-MAR-24 11.30.00.000000 AM	24-MAR-24 12.30.00.000000 AM	economy	14
5007	3007	2001	Dammam	Riyadh	24-MAR-24 09.00.00.000000 AM	24-MAR-24 11.30.00.000000 AM	22-FEB-24 06.25.00.000000 AM	economy	15
5057	3002	2003	Qassim	Riyadh	26-MAR-24 09.00.00.000000 AM	26-MAR-24 11.00.00.000000 AM	05-FEB-24 04.18.00.000000 AM	economy	12
5058	3004	2003	Qassim	Riyadh	26-MAR-24 09.00.00.000000 AM	26-MAR-24 11.00.00.000000 AM	06-MAR-24 08.22.00.000000 AM	business	1
5059	3006	2003	Qassim	Riyadh	26-MAR-24 09.00.00.000000 AM	26-MAR-24 11.00.00.000000 AM	16-FEB-24 07.56.00.000000 AM	economy	12
5060	3008	2003	Qassim	Riyadh	26-MAR-24 09.00.00.000000 AM	26-MAR-24 11.00.00.000000 AM	15-MAR-24 06.25.00.000000 AM	business	3
5113	3015	2005	Madinah	Riyadh	04-FEB-24 12.00.00.000000 PM	04-FEB-24 04.00.00.000000 PM	22-MAR-24 01.27.00.000000 AM	first class	8
5114	3011	2005	Madinah	Riyadh	04-FEB-24 12.00.00.000000 PM	04-FEB-24 04.00.00.000000 PM	29-MAR-24 03.51.00.000000 AM	compartment	17
5115	3020	2005	Madinah	Riyadh	04-FEB-24 12.00.00.000000 PM	04-FEB-24 04.00.00.000000 PM	21-MAR-24 04.39.00.000000 AM	first class	9
5116	3016	2005	Madinah	Riyadh	04-FEB-24 12.00.00.000000 PM	04-FEB-24 04.00.00.000000 PM	28-FEB-24 12.14.00.000000 AM	compartment	19
5141	3009	2007	Riyadh	Qassim	04-OCT-24 08.00.00.000000 AM	04-OCT-24 10.00.00.000000 AM	21-MAR-24 02.20.00.000000 PM	economy	11
5143	3018	2007	Riyadh	Qassim	04-OCT-24 08.00.00.000000 AM	04-OCT-24 10.00.00.000000 AM	24-MAR-24 09.55.00.000000 AM	economy	13
5145	3019	2007	Riyadh	Qassim	04-OCT-24 08.00.00.000000 AM	04-OCT-24 10.00.00.000000 AM	29-MAR-24 01.10.00.000000 PM	economy	14
5147	3020	2007	Riyadh	Qassim	04-OCT-24 08.00.00.000000 AM	04-OCT-24 10.00.00.000000 AM	04-FEB-24 08.15.00.000000 PM	economy	15
5186	3006	2011	Riyadh	Dammam	20-MAY-24 03.00.00.000000 PM	20-MAY-24 05.30.00.000000 PM	05-SEP-24 09.27.00.000000 AM	first class	6
5188	3015	2011	Riyadh	Dammam	20-MAY-24 03.00.00.000000 PM	20-MAY-24 05.30.00.000000 PM	14-MAY-24 11.48.00.000000 AM	first class	10
5190	3007	2011	Riyadh	Dammam	20-MAY-24 03.00.00.000000 PM	20-MAY-24 05.30.00.000000 PM	20-APR-24 10.36.00.000000 AM	first class	7
5192	3020	2011	Riyadh	Dammam	20-MAY-24 03.00.00.000000 PM	20-MAY-24 05.30.00.000000 PM	06-MAY-24 06.22.00.000000 AM	first class	8

Data Manipulation Language (DML): Data insert

Ticket Table: (37 records) (continued)

Ticketid	Passengerid	Tripid	Arrivalstation	Departurestation	Departuredatetime	Arrivaldatetime	Purchaseddate	Classname	Seatnumbers
5193	3008	2012	Qassim	Riyadh	21-MAY-24 03.00.00.000000 PM	21-MAY-24 05.30.00.000000 PM	15-MAY-24 10.23.00.000000 AM	economy	13
5194	3004	2012	Qassim	Riyadh	21-MAY-24 03.00.00.000000 PM	21-MAY-24 05.30.00.000000 PM	07-MAY-24 08.15.00.000000 AM	chiled Ticket	21
5195	3016	2012	Qassim	Riyadh	21-MAY-24 03.00.00.000000 PM	21-MAY-24 05.30.00.000000 PM	11-MAY-24 02.48.00.000000 PM	economy	13
5196	3005	2012	Qassim	Riyadh	21-MAY-24 03.00.00.000000 PM	21-MAY-24 05.30.00.000000 PM	29-APR-24 01.52.00.000000 PM	economy	11
5216	3017	2014	Riyadh	Madinah	23-MAY-24 01.00.00.000000 PM	23-MAY-24 05.00.00.000000 PM	08-MAY-24 08.27.00.000000 AM	compartment	20
5217	3012	2014	Riyadh	Madinah	23-MAY-24 01.00.00.000000 PM	23-MAY-24 05.00.00.000000 PM	09-MAY-24 10.53.00.000000 AM	economy	11
5218	3008	2014	Riyadh	Madinah	23-MAY-24 01.00.00.000000 PM	23-MAY-24 05.00.00.000000 PM	28-APR-24 12.42.00.000000 PM	compartment	18
5219	3019	2014	Riyadh	Madinah	23-MAY-24 01.00.00.000000 PM	23-MAY-24 05.00.00.000000 PM	28-APR-24 02.51.00.000000 AM	first class	13
5220	3020	2014	Riyadh	Madinah	23-MAY-24 01.00.00.000000 PM	23-MAY-24 05.00.00.000000 PM	29-APR-24 09.19.00.000000 AM	compartment	16
5221	3001	2014	Riyadh	Madinah	23-MAY-24 01.00.00.000000 PM	23-MAY-24 05.00.00.000000 PM	25-APR-24 11.25.00.000000 AM	economy	11
5273	3001	2015	Dammam	Riyadh	23-MAY-24 07.01.00.000000 PM	23-MAY-24 09.31.00.000000 PM	20-APR-24 10.15.00.000000 PM	economy	14
5274	3010	2015	Dammam	Riyadh	23-MAY-24 07.02.00.000000 PM	23-MAY-24 09.32.00.000000 PM	22-APR-24 09.00.00.000000 AM	chiled Ticket	21
5279	3009	2015	Dammam	Riyadh	23-MAY-24 07.07.00.000000 PM	23-MAY-24 09.37.00.000000 PM	04-MAY-24 07.10.00.000000 AM	economy	12
5295	3015	2017	Jeddah	Madinah	01-JUN-24 12.00.00.000000 PM	01-JUN-24 02.30.00.000000 PM	11-APR-24 09.30.00.000000 AM	economy	13
5297	3018	2017	Jeddah	Madinah	01-JUN-24 12.00.00.000000 PM	01-JUN-24 02.30.00.000000 PM	29-MAR-24 03.56.00.000000 AM	economy	12
5298	3003	2017	Jeddah	Madinah	01-JUN-24 12.00.00.000000 PM	01-JUN-24 02.30.00.000000 PM	13-APR-24 02.25.00.000000 AM	business	2
5299	3011	2017	Jeddah	Madinah	01-JUN-24 12.00.00.000000 PM	01-JUN-24 02.30.00.000000 PM	18-MAR-24 10.20.00.000000 AM	business	4

Data Manipulation Language (DML): Data insert

Advanced Train Ticket Table: (37 records)

Ticketid	Paymentmethod	Paymentamount	Classname	Onboardbaggage	Checkedbaggage	Seatnumber
5001	paypal	110	economy	10kg	20Kg	11
5003	mastercard	110	economy	10kg	20kg	13
5005	mastercard	110	economy	10kg	20kg	14
5007	visa	110	economy	10kg	20kg	15
5057	mastercard	110	economy	10kg	20kg	12
5058	visa	220	business	10kg	30Kg	1
5059	visa	110	economy	10kg	20kg	12
5060	paypal	220	business	10kg	30Kg	3
5113	visa	330	first class	10kg	50kg	8
5114	mastercard	90	compartment	10kg	30Kg	17
5115	visa	330	first class	10kg	50kg	9
5116	mastercard	90	compartment	10kg	30Kg	19
5141	paypal	110	economy	10kg	20kg	11
5143	paypal	110	economy	10kg	20kg	13
5145	paypal	110	economy	10kg	20kg	14
5147	paypal	110	economy	10kg	20kg	15
5186	mastercard	330	first class	10kg	50kg	16
5188	visa	330	first class	10kg	50kg	10
5190	paypal	330	first class	10kg	50kg	7
5192	mastercard	330	first class	10kg	50kg	8

Data Manipulation Language (DML): Data insert

Advanced Train Ticket Table: (37 records) (continued)

Ticketid	Paymentmethod	Paymentamount	Classname	Onboardbaggage	Checkedbaggage	Seatnumber
5193	visa	110	economy	10kg	20kg	13
5194	mastercard	60	Child Ticket	5kg	20kg	21
5195	visa	110	economy	10kg	20kg	13
5196	paypal	220	economy	10kg	20kg	11
5216	paypal	90	compartiment	10kg	30kg	20
5217	mastercard	110	economy	10kg	20kg	11
5218	mastercard	90	compartiment	10kg	30kg	18
5219	paypal	110	economy	10kg	20kg	13
5220	visa	90	compartiment	10kg	30kg	16
5221	visa	110	economy	10kg	20kg	11
5273	mastercard	110	economy	10kg	20kg	14
5274	mastercard	60	Child Ticket	5kg	20kg	21
5279	paypal	110	economy	10kg	20kg	12
5295	paypal	110	economy	10kg	20kg	13
5297	mastercard	110	economy	10kg	20kg	12
5298	visa	220	business	10kg	30kg	2
5299	visa	220	business	10kg	30kg	4

Data Manipulation Language (DML): Data insert

Ticket Payments Table (SQL):

```
INSERT ALL
INTO TicketPayments (PaymentID, PassengerID, passengerName, TicketID, PaymentAmount, PurchasedDate, PaymentMethod)
VALUES (6001, 3001, 'Ahmed Al-Farsi', 5001, 110, TO_TIMESTAMP('2/5/2024 2:08', 'MM/DD/YYYY HH24:MI'), 'paypal')
INTO TicketPayments (PaymentID, PassengerID, passengerName, TicketID, PaymentAmount, PurchasedDate, PaymentMethod)
VALUES (6057, 3002, 'Fatima Al-Mutairi', 5057, 110, TO_TIMESTAMP('2/5/2024 4:18', 'MM/DD/YYYY HH24:MI'), 'mastercard')
INTO TicketPayments (PaymentID, PassengerID, passengerName, TicketID, PaymentAmount, PurchasedDate, PaymentMethod)
VALUES (6003, 3003, 'Abdullah Al-Saud', 5003, 110, TO_TIMESTAMP('3/15/2024 4:29', 'MM/DD/YYYY HH24:MI'), 'mastercard')
INTO TicketPayments (PaymentID, PassengerID, passengerName, TicketID, PaymentAmount, PurchasedDate, PaymentMethod)
VALUES (6058, 3004, 'Sara Al-Rashidi', 5058, 220, TO_TIMESTAMP('3/6/2024 8:22', 'MM/DD/YYYY HH24:MI'), 'visa')
INTO TicketPayments (PaymentID, PassengerID, passengerName, TicketID, PaymentAmount, PurchasedDate, PaymentMethod)
VALUES (6005, 3005, 'Mohammed Al-Harbi', 5005, 110, TO_TIMESTAMP('3/24/2024 0:30', 'MM/DD/YYYY HH24:MI'), 'mastercard')
INTO TicketPayments (PaymentID, PassengerID, passengerName, TicketID, PaymentAmount, PurchasedDate, PaymentMethod)
VALUES (6059, 3006, 'Aisha Al-Ghamdi', 5059, 110, TO_TIMESTAMP('2/16/2024 7:56', 'MM/DD/YYYY HH24:MI'), 'visa')
INTO TicketPayments (PaymentID, PassengerID, passengerName, TicketID, PaymentAmount, PurchasedDate, PaymentMethod)
VALUES (6007, 3007, 'Khalid Al-Otaibi', 5007, 110, TO_TIMESTAMP('2/22/2024 6:25', 'MM/DD/YYYY HH24:MI'), 'visa')
INTO TicketPayments (PaymentID, PassengerID, passengerName, TicketID, PaymentAmount, PurchasedDate, PaymentMethod)
VALUES (6060, 3008, 'Noura Al-Mansoor', 5060, 220, TO_TIMESTAMP('3/15/2024 6:25', 'MM/DD/YYYY HH24:MI'), 'paypal')
INTO TicketPayments (PaymentID, PassengerID, passengerName, TicketID, PaymentAmount, PurchasedDate, PaymentMethod)
VALUES (6141, 3009, 'Faisal Al-Dosari', 5141, 110, TO_TIMESTAMP('3/21/2024 14:20', 'MM/DD/YYYY HH24:MI'), 'paypal')
INTO TicketPayments (PaymentID, PassengerID, passengerName, TicketID, PaymentAmount, PurchasedDate, PaymentMethod)
VALUES (6113, 3015, 'Youssef Al-Ahmadi', 5113, 330, TO_TIMESTAMP('3/22/2024 01:27', 'MM/DD/YYYY HH24:MI'), 'visa')
INTO TicketPayments (PaymentID, PassengerID, passengerName, TicketID, PaymentAmount, PurchasedDate, PaymentMethod)
VALUES (6114, 3011, 'Abdulaziz Al-Mutlaq', 5114, 90, TO_TIMESTAMP('3/29/2024 03:51', 'MM/DD/YYYY HH24:MI'), 'mastercard')
INTO TicketPayments (PaymentID, PassengerID, passengerName, TicketID, PaymentAmount, PurchasedDate, PaymentMethod)
VALUES (6115, 3020, 'Hind Al-Sulaimani', 5115, 330, TO_TIMESTAMP('3/21/2024 04:39', 'MM/DD/YYYY HH24:MI'), 'visa')
INTO TicketPayments (PaymentID, PassengerID, passengerName, TicketID, PaymentAmount, PurchasedDate, PaymentMethod)
VALUES (6116, 3016, 'Reem Al-Abdullah', 5116, 90, TO_TIMESTAMP('2/28/2024 00:14', 'MM/DD/YYYY HH24:MI'), 'mastercard')
INTO TicketPayments (PaymentID, PassengerID, passengerName, TicketID, PaymentAmount, PurchasedDate, PaymentMethod)
VALUES (6143, 3018, 'Amina Al-Zamil', 5143, 110, TO_TIMESTAMP('3/24/2024 09:55', 'MM/DD/YYYY HH24:MI'), 'paypal')
INTO TicketPayments (PaymentID, PassengerID, passengerName, TicketID, PaymentAmount, PurchasedDate, PaymentMethod)
VALUES (6145, 3019, 'Majed Al-Falih', 5145, 110, TO_TIMESTAMP('3/29/2024 13:10', 'MM/DD/YYYY HH24:MI'), 'paypal')
INTO TicketPayments (PaymentID, PassengerID, passengerName, TicketID, PaymentAmount, PurchasedDate, PaymentMethod)
VALUES (6147, 3020, 'Hind Al-Sulaimani', 5147, 110, TO_TIMESTAMP('2/4/2024 20:15', 'MM/DD/YYYY HH24:MI'), 'paypal')
INTO TicketPayments (PaymentID, PassengerID, passengerName, TicketID, PaymentAmount, PurchasedDate, PaymentMethod)
VALUES (6164, 3002, 'Fatima Al-Mutairi', 5164, 110, TO_TIMESTAMP('3/15/2024 23:45', 'MM/DD/YYYY HH24:MI'), 'visa')
INTO TicketPayments (PaymentID, PassengerID, passengerName, TicketID, PaymentAmount, PurchasedDate, PaymentMethod)
VALUES (6166, 3017, 'Fahad Al-Dossary', 5166, 110, TO_TIMESTAMP('3/9/2024 8:09', 'MM/DD/YYYY HH24:MI'), 'visa')
```

Table in the next slide

```
INTO TicketPayments (PaymentID, PassengerID, passengerName, TicketID, PaymentAmount, PurchasedDate, PaymentMethod)
VALUES (6179, 3009, 'Faisal Al-Dosari', 5179, 220, TO_TIMESTAMP('3/22/2024 16:37', 'MM/DD/YYYY HH24:MI'), 'mastercard')
INTO TicketPayments (PaymentID, PassengerID, passengerName, TicketID, PaymentAmount, PurchasedDate, PaymentMethod)
VALUES (6181, 3011, 'Abdulaziz Al-Mutlaq', 5181, 220, TO_TIMESTAMP('3/11/2024 14:53', 'MM/DD/YYYY HH24:MI'), 'paypal')
INTO TicketPayments (PaymentID, PassengerID, passengerName, TicketID, PaymentAmount, PurchasedDate, PaymentMethod)
VALUES (6183, 3001, 'Ahmed Al-Farsi', 5183, 220, TO_TIMESTAMP('6/4/2024 18:29', 'MM/DD/YYYY HH24:MI'), 'visa')
INTO TicketPayments (PaymentID, PassengerID, passengerName, TicketID, PaymentAmount, PurchasedDate, PaymentMethod)
VALUES (6185, 3003, 'Abdullah Al-Saud', 5185, 220, TO_TIMESTAMP('3/25/2024 17:11', 'MM/DD/YYYY HH24:MI'), 'visa')
INTO TicketPayments (PaymentID, PassengerID, passengerName, TicketID, PaymentAmount, PurchasedDate, PaymentMethod)
VALUES (6186, 3006, 'Aisha Al-Ghamdi', 5186, 330, TO_TIMESTAMP('9/5/2024 9:27', 'MM/DD/YYYY HH24:MI'), 'mastercard')
INTO TicketPayments (PaymentID, PassengerID, passengerName, TicketID, PaymentAmount, PurchasedDate, PaymentMethod)
VALUES (6188, 3015, 'Youssef Al-Ahmadi', 5188, 330, TO_TIMESTAMP('5/14/2024 11:48', 'MM/DD/YYYY HH24:MI'), 'visa')
INTO TicketPayments (PaymentID, PassengerID, passengerName, TicketID, PaymentAmount, PurchasedDate, PaymentMethod)
VALUES (6190, 3007, 'Khalid Al-Otaibi', 5190, 330, TO_TIMESTAMP('4/20/2024 10:36', 'MM/DD/YYYY HH24:MI'), 'paypal')
INTO TicketPayments (PaymentID, PassengerID, passengerName, TicketID, PaymentAmount, PurchasedDate, PaymentMethod)
VALUES (6192, 3020, 'Hind Al-Sulaimani', 5192, 330, TO_TIMESTAMP('6/5/2024 6:22', 'MM/DD/YYYY HH24:MI'), 'mastercard')
INTO TicketPayments (PaymentID, PassengerID, passengerName, TicketID, PaymentAmount, PurchasedDate, PaymentMethod)
VALUES (6193, 3008, 'Noura Al-Mansoor', 5193, 110, TO_TIMESTAMP('5/15/2024 10:23', 'MM/DD/YYYY HH24:MI'), 'visa')
INTO TicketPayments (PaymentID, PassengerID, passengerName, TicketID, PaymentAmount, PurchasedDate, PaymentMethod)
VALUES (6194, 3004, 'Sara Al-Rashidi', 5194, 60, TO_TIMESTAMP('5/7/2024 8:15', 'MM/DD/YYYY HH24:MI'), 'mastercard')
INTO TicketPayments (PaymentID, PassengerID, passengerName, TicketID, PaymentAmount, PurchasedDate, PaymentMethod)
VALUES (6195, 3016, 'Reem Al-Abdullah', 5195, 110, TO_TIMESTAMP('5/11/2024 14:48', 'MM/DD/YYYY HH24:MI'), 'visa')
INTO TicketPayments (PaymentID, PassengerID, passengerName, TicketID, PaymentAmount, PurchasedDate, PaymentMethod)
VALUES (6196, 3005, 'Mohammed Al-Harbi', 5196, 220, TO_TIMESTAMP('4/29/2024 13:52', 'MM/DD/YYYY HH24:MI'), 'paypal')
INTO TicketPayments (PaymentID, PassengerID, passengerName, TicketID, PaymentAmount, PurchasedDate, PaymentMethod)
VALUES (6216, 3014, 'Laila Al-Jaber', 5216, 90, TO_TIMESTAMP('5/8/2024 8:27', 'MM/DD/YYYY HH24:MI'), 'paypal')
INTO TicketPayments (PaymentID, PassengerID, passengerName, TicketID, PaymentAmount, PurchasedDate, PaymentMethod)
VALUES (6217, 3012, 'Salma Al-Qahtani', 5217, 110, TO_TIMESTAMP('5/9/2024 10:53', 'MM/DD/YYYY HH24:MI'), 'mastercard')
INTO TicketPayments (PaymentID, PassengerID, passengerName, TicketID, PaymentAmount, PurchasedDate, PaymentMethod)
VALUES (6218, 3008, 'Noura Al-Mansoor', 5218, 90, TO_TIMESTAMP('4/28/2024 12:42', 'MM/DD/YYYY HH24:MI'), 'mastercard')
INTO TicketPayments (PaymentID, PassengerID, passengerName, TicketID, PaymentAmount, PurchasedDate, PaymentMethod)
VALUES (6219, 3019, 'Majed Al-Falih', 5219, 110, TO_TIMESTAMP('5/11/2024 11:36', 'MM/DD/YYYY HH24:MI'), 'paypal')
INTO TicketPayments (PaymentID, PassengerID, passengerName, TicketID, PaymentAmount, PurchasedDate, PaymentMethod)
VALUES (6220, 3020, 'Hind Al-Sulaimani', 5220, 90, TO_TIMESTAMP('4/29/2024 09:19', 'MM/DD/YYYY HH24:MI'), 'visa')
INTO TicketPayments (PaymentID, PassengerID, passengerName, TicketID, PaymentAmount, PurchasedDate, PaymentMethod)
VALUES (6221, 3001, 'Ahmed Al-Farsi', 5221, 110, TO_TIMESTAMP('4/25/2024 11:25', 'MM/DD/YYYY HH24:MI'), 'visa')
INTO TicketPayments (PaymentID, PassengerID, passengerName, TicketID, PaymentAmount, PurchasedDate, PaymentMethod)
VALUES (6274, 3010, 'Huda Al-Dosari', 5274, 60, TO_TIMESTAMP('4/22/2024 09:00', 'MM/DD/YYYY HH24:MI'), 'paypal')
INTO TicketPayments (PaymentID, PassengerID, passengerName, TicketID, PaymentAmount, PurchasedDate, PaymentMethod)
VALUES (6273, 3001, 'Ahmed Al-Farsi', 5273, 110, TO_TIMESTAMP('4/20/2024 22:15', 'MM/DD/YYYY HH24:MI'), 'mastercard')
INTO TicketPayments (PaymentID, PassengerID, passengerName, TicketID, PaymentAmount, PurchasedDate, PaymentMethod)
VALUES (6279, 3009, 'Faisal Al-Dosari', 5279, 110, TO_TIMESTAMP('4/5/2024 07:10', 'MM/DD/YYYY HH24:MI'), 'mastercard')
INTO TicketPayments (PaymentID, PassengerID, passengerName, TicketID, PaymentAmount, PurchasedDate, PaymentMethod)
VALUES (6297, 3018, 'Amina Al-Zamil', 5297, 110, TO_TIMESTAMP('3/29/2024 03:56', 'MM/DD/YYYY HH24:MI:SS'), 'paypal')
INTO TicketPayments (PaymentID, PassengerID, passengerName, TicketID, PaymentAmount, PurchasedDate, PaymentMethod)
VALUES (6298, 3003, 'Abdullah Al-Saud', 5298, 220, TO_TIMESTAMP('4/13/2024 02:25', 'MM/DD/YYYY HH24:MI:SS'), 'visa')
INTO TicketPayments (PaymentID, PassengerID, passengerName, TicketID, PaymentAmount, PurchasedDate, PaymentMethod)
VALUES (6299, 3011, 'Abdulaziz Al-Mutlaq', 5299, 220, TO_TIMESTAMP('4/10/2024 21:40', 'MM/DD/YYYY HH24:MI'), 'visa')
SELECT * FROM dual;
```

Data Manipulation Language (DML): Data insert

Ticket Payments Table: (44 records)

Paymentid	Passengerid	Passengername	Ticketid	Paymentamount	Paymentmethod	Paymentdate
6001	3001	Ahmed Al-Farsi	5001	110	paypal	05-FEB-24 02.08.00.000000 AM
6003	3003	Abdullah Al-Saud	5003	110	mastercard	15-MAR-24 04.29.00.000000 AM
6005	3005	Mohammed Al-Harbi	5005	110	mastercard	24-MAR-24 12.30.00.000000 AM
6007	3007	Khalid Al-Otaibi	5007	110	visa	22-FEB-24 06.25.00.000000 AM
6057	3002	Fatima Al-Mutairi	5057	110	mastercard	05-FEB-24 04.18.00.000000 AM
6058	3004	Sara Al-Rashidi	5058	220	visa	06-MAR-24 08.22.00.000000 AM
6059	3006	Aisha Al-Ghamdi	5059	110	visa	16-FEB-24 07.56.00.000000 AM
6060	3008	Noura Al-Mansoor	5060	220	paypal	15-MAR-24 06.25.00.000000 AM
6113	3015	Youssef Al-Ahmadi	5113	330	visa	22-MAR-24 01.27.00.000000 AM
6114	3011	Abdulaziz Al-Mutlaq	5114	90	mastercard	29-MAR-24 03.51.00.000000 AM
6115	3020	Hind Al-Sulaimani	5115	330	visa	21-MAR-24 04.39.00.000000 AM
6116	3016	Reem Al-Abdullah	5116	90	mastercard	28-FEB-24 12.14.00.000000 AM
6141	3009	Faisal Al-Dosari	5141	110	paypal	21-MAR-24 02.20.00.000000 PM
6143	3018	Amina Al-Zamil	5143	110	paypal	24-MAR-24 09.55.00.000000 AM
6145	3019	Majed Al-Falih	5145	110	paypal	29-MAR-24 01.10.00.000000 PM
6147	3020	Hind Al-Sulaimani	5147	110	paypal	04-FEB-24 08.15.00.000000 PM
6164	3002	Fatima Al-Mutairi	5164	110	visa	15-MAR-24 11.45.00.000000 PM
6166	3017	Fahad Al-Dossary	5166	110	visa	09-MAR-24 08.09.00.000000 AM
6168	3015	Youssef Al-Ahmadi	5168	110	mastercard	04-MAR-24 10.17.00.000000 AM
6170	3004	Sara Al-Rashidi	5170	110	visa	24-MAR-24 08.27.00.000000 PM

Data Manipulation Language (DML): Data insert

Ticket Payments Table: (44 records) (continued)

Paymentid	Passengerid	Passengername	Ticketid	Paymentamount	Paymentmethod	Paymentdate
6179	3009	Faisal Al-Dosari	5179	220	mastercard	22-MAR-24 04.37.00.000000 PM
6181	3011	Abdulaziz Al-Mutlaq	5181	220	paypal	11-MAR-24 02.53.00.000000 PM
6183	3001	Ahmed Al-Farsi	5183	220	visa	04-JUN-24 06.29.00.000000 PM
6185	3003	Abdullah Al-Saud	5185	220	visa	25-MAR-24 05.11.00.000000 PM
6186	3006	Aisha Al-Ghamdi	5186	330	mastercard	05-SEP-24 09.27.00.000000 AM
6188	3015	Youssef Al-Ahmadi	5188	330	visa	14-MAY-24 11.48.00.000000 AM
6190	3007	Khalid Al-Otaibi	5190	330	paypal	20-APR-24 10.36.00.000000 AM
6192	3020	Hind Al-Sulaimani	5192	330	mastercard	05-JUN-24 06.22.00.000000 AM
6193	3008	Noura Al-Mansoor	5193	110	visa	15-MAY-24 10.23.00.000000 AM
6194	3004	Sara Al-Rashidi	5194	60	mastercard	07-MAY-24 08.15.00.000000 AM
6195	3016	Reem Al-Abdullah	5195	110	visa	11-MAY-24 02.48.00.000000 PM
6196	3005	Mohammed Al-Harbi	5196	220	paypal	29-APR-24 01.52.00.000000 PM
6216	3014	Laila Al-Jaber	5216	90	paypal	08-MAY-24 08.27.00.000000 AM
6217	3012	Salma Al-Qahtani	5217	110	mastercard	09-MAY-24 10.53.00.000000 AM
6218	3008	Noura Al-Mansoor	5218	90	mastercard	28-APR-24 12.42.00.000000 PM
6219	3019	Majed Al-Falih	5219	110	paypal	11-MAY-24 11.36.00.000000 AM
6220	3020	Hind Al-Sulaimani	5220	90	visa	29-APR-24 09.19.00.000000 AM
6221	3001	Ahmed Al-Farsi	5221	110	visa	25-APR-24 11.25.00.000000 AM
6273	3001	Ahmed Al-Farsi	5273	110	mastercard	20-APR-24 10.15.00.000000 PM
6274	3010	Huda Al-Dosari	5274	60	paypal	22-APR-24 09.00.00.000000 AM
6279	3009	Faisal Al-Dosari	5279	110	mastercard	05-APR-24 07.10.00.000000 AM
6297	3018	Amina Al-Zamil	5297	110	paypal	29-MAR-24 03.56.00.000000 AM
6298	3003	Abdullah Al-Saud	5298	220	visa	13-APR-24 02.25.00.000000 AM
6299	3011	Abdulaziz Al-Mutlaq	5299	220	visa	10-APR-24 09.40.00.000000 PM

Data Manipulation Language (DML): Data insert

Trip Cancelation Table (SQL): (5 records)

```
INSERT ALL
```

```
INTO TripCancelation (TicketID, PassengerID, passengerPhone, passengerEmail, PurchasedDate, trainID, TheReason) VALUES (5001, 3001, '+966 50 123 4567', 'ahmed.alfarsi@email.com', TO_TIMESTAMP('05/02/2024 02:08', 'DD/MM/YYYY HH24:MI'), 110, 'Change plan')
```

```
INTO TripCancelation (TicketID, PassengerID, passengerPhone, passengerEmail, PurchasedDate, trainID, TheReason) VALUES (5003, 3003, '+966 59 345 6789', 'abdullah.saud@email.com', TO_TIMESTAMP('15/03/2024 04:29:57', 'DD/MM/YYYY HH24:MI:SS'), 110, 'Personal emergency')
```

```
INTO TripCancelation (TicketID, PassengerID, passengerPhone, passengerEmail, PurchasedDate, trainID, TheReason) VALUES (5298, 3003, '+966 58 678 9012', 'ahmed.mutairi@email.com', TO_TIMESTAMP('13/04/2024 02:25:00', 'DD/MM/YYYY HH24:MI:SS'), 220, 'Change plan')
```

```
INTO TripCancelation (TicketID, PassengerID, passengerPhone, passengerEmail, PurchasedDate, trainID, TheReason) VALUES (5299, 3011, '+966 50 789 0123', 'rawan.ghanim@email.com', TO_TIMESTAMP('10/04/2024 21:40', 'DD/MM/YYYY HH24:MI'), 220, 'Change plan')
```

```
INTO TripCancelation (TicketID, PassengerID, passengerPhone, passengerEmail, PurchasedDate, trainID, TheReason) VALUES (5058, 3004, '+966 55 456 7890', 'sara.rashidi@email.com', TO_TIMESTAMP('06/03/2024 08:22', 'DD/MM/YYYY HH24:MI'), 220, 'Personal emergency')
```

```
SELECT 1 FROM DUAL;
```

TICKETID	PASSENGERID	PASSENGERPHONE	PASSENGEREMAIL	TRAINID	THEREASON	PURCHASEDDATE
5001	3001	+966 50 123 4567	ahmed.alfarsi@email.com	110	Change plan	05-FEB-24 02.08.00.000000 AM
5003	3003	+966 59 345 6789	abdullah.saud@email.com	110	Personal emergency	15-MAR-24 04.29.57.000000 AM
5298	3003	+966 58 678 9012	ahmed.mutairi@email.com	220	Change plan	13-APR-24 02.25.00.000000 AM
5299	3011	+966 50 789 0123	rawan.ghanim@email.com	220	Change plan	10-APR-24 09.40.00.000000 PM
5058	3004	+966 55 456 7890	sara.rashidi@email.com	220	Personal emergency	06-MAR-24 08.22.00.000000 AM

Data Manipulation Language (DML): Queries

Q1- Select employee name, train ID, and job title for employees with job titles starting with 'M' from the employee table.

SQL query:

```
SELECT employeeName, trainID, Job  
FROM employee  
WHERE Job LIKE 'M%' ;
```

Result:

EMPLOYEE NAME	TRAIN ID	JOB
Nasser Al-Saleh	110	Manager
Nouf Al-Sulaiman	111	Manager
Dana Al-Harbi	113	Manager
Rawan Al-Muhanna	112	Manager
Sara Al-Dakheel	114	Manager

Data Manipulation Language (DML): Queries

Q2- Show information of passengers' total payments more than 400 and applies a discount message based on total payments, if the sum of payment more than 700 give them 25% discount, else give 15% discount

SQL query:

```
SELECT PassengerID, passengerName,  
SUM(PaymentAmount) AS TotalPayment,  
CASE  
    WHEN SUM(PaymentAmount) > 700  
        THEN 'You have a 25% discount applied.'  
    ELSE 'You have a 15% discount applied.'  
END AS DiscountMessage  
FROM TicketPayments  
GROUP BY PassengerID, passengerName  
HAVING SUM(PaymentAmount) > 400  
ORDER BY TotalPayment DESC;
```

Result:

PASSENGERID	PASSENGERNAME	TOTALPAYMENT	DISCOUNTMESSAGE
3020	Hind Al-Sulaimani	860	You have a 25% discount applied.
3015	Youssef Al-Ahmadi	770	You have a 25% discount applied.
3003	Abdullah Al-Saud	550	You have a 15% discount applied.
3001	Ahmed Al-Farsi	550	You have a 15% discount applied.
3011	Abdulaziz Al-Mutlaq	530	You have a 15% discount applied.
3009	Faisal Al-Dosari	440	You have a 15% discount applied.
3006	Aisha Al-Ghamdi	440	You have a 15% discount applied.
3007	Khalid Al-Otaibi	440	You have a 15% discount applied.
3008	Noura Al-Mansoor	420	You have a 15% discount applied.

Data Manipulation Language (DML): Queries

Q3- Select trip IDs and departure times for trips in the date range of 2024-03-24 to 2024-04-24.

SQL query:

```
SELECT tripid ,DepartureDateTime  
FROM TrainTrip  
WHERE DepartureDateTime BETWEEN TO_DATE('2024-03-24 09:00:00', 'YYYY-MM-DD  
HH24:MI:SS') AND TO_DATE('2024-04-24 09:00:00', 'YYYY-MM-DD HH24:MI:SS');
```

Result:

TRIPID	DEPARTUREDATETIME
2001	24-MAR-24 09.00.00.000000 AM
2003	26-MAR-24 09.00.00.000000 AM
2005	02-APR-24 12.00.00.000000 PM
2007	10-APR-24 08.00.00.000000 AM
2008	10-APR-24 12.00.00.000000 PM
2010	13-APR-24 06.00.00.000000 PM

Data Manipulation Language (DML): Queries

Q4- Which tickets from the AdvancedTrainTicket table have been canceled, with passenger emails, and class names, where class name is economy (show seven rows).

SQL query:

```
SELECT AdvancedTrainTicket.TICKETID, TripCancellation.TICKETID AS TicketID_canceled,  
TripCancellation.PASSENGEREMAIL, AdvancedTrainTicket.CLASSNAME  
FROM TripCancellation  
RIGHT JOIN AdvancedTrainTicket ON TripCancellation.TicketID = AdvancedTrainTicket.TicketID  
WHERE AdvancedTrainTicket.className = 'economy' AND ROWNUM <=7;
```

Result:

TICKETID	TICKETID_CANCELED	PASSENGEREMAIL	CLASSNAME
5001	5001	ahmed.alfarsi@email.com	economy
5003	5003	abdullah.saud@email.com	economy
5217	-	-	economy
5141	-	-	economy
5279	-	-	economy
5193	-	-	economy
5145	-	-	economy

Data Manipulation Language (DML): Queries

Q5- Use an aggregate function to calculate the total payment amount for each payment method, ordered by the total amount descending

SQL query:

```
SELECT PaymentMethod, SUM(PaymentAmount) AS TotalAmount  
FROM TicketPayments  
GROUP BY PaymentMethod  
ORDER BY TotalAmount DESC;
```

Result:

PAYMENTMETHOD	TOTALAMOUNT
visa	3060
mastercard	1980
paypal	1910

Data Manipulation Language (DML): Queries

Q6- Counts the number of trips for each train in the TrainTrip table, grouped by trainID.

SQL query:

```
SELECT trainID, COUNT(*) AS trip_count  
FROM TrainTrip  
GROUP BY trainID;
```

Result:

TRAINID	TRIP_COUNT
113	2
112	2
110	2
114	3
111	2

Data Manipulation Language (DML): Queries

Q7- Counts the number of employees assigned to each train by joining the train and employee tables on trainID and grouping the results by trainID.

SQL query:

```
SELECT t.trainID, COUNT(*) AS NumberOfEmployees  
FROM train t  
JOIN employee e ON t.trainID = e.trainID  
GROUP BY t.trainID;
```

Result:

TRAINID	NUMBEROFEmployees
113	4
112	4
110	4
114	4
111	4

Data Manipulation Language (DML): Queries

Q8- Update the salary for employees with the job title "manager" and add 1000 to their current salary.

SQL query:

```
UPDATE employee  
SET salary = salary + 1000  
WHERE job = 'Manager';
```

Before:

EMPLOYEE NAME	JOB	SALARY
Nasser Al-Saleh	Manager	5000
Nouf Al-Sulaiman	Manager	5000
Dana Al-Harbi	Manager	5000
Rawan Al-Muhanna	Manager	5000
Sara Al-Dakheel	Manager	5000

Result:

EMPLOYEE NAME	JOB	SALARY
Nasser Al-Saleh	Manager	6000
Nouf Al-Sulaiman	Manager	6000
Dana Al-Harbi	Manager	6000
Rawan Al-Muhanna	Manager	6000
Sara Al-Dakheel	Manager	6000

Data Manipulation Language (DML): Queries

Q9- Counts the total passengers for each trip, ordered assinding for passengers.

SQL query:

```
SELECT t.TripID, COUNT(p.PassengerID) AS TotalPassengers  
FROM TrainTrip t  
JOIN Ticket ti ON t.TripID = ti.tripID  
JOIN Passengers p ON ti.PassengerID = p.PassengerID  
GROUP BY t.TripID  
ORDER BY TotalPassengers;
```

Result:

TRIPID	TOTALPASSENGERS
2015	3
2001	4
2017	4
2012	4
2011	4
2003	4
2005	4
2007	4
2014	6

Data Manipulation Language (DML): Queries

Q10- What are payment methods that used for the tickets booked between 2024-03-01, and 2024-03-11?

SQL query:

```
SELECT TICKETID, PurchasedDate, Paymentmethod  
FROM TicketPayments  
WHERE PurchasedDate BETWEEN TO_DATE('2024-03-01', 'YYYY-MM-DD') AND  
TO_DATE('2024-03-11', 'YYYY-MM-DD');
```

Result:

TICKETID	PURCHASEDDATE	PAYMENTMETHOD
5058	06-MAR-24 08.22.00.000000 AM	visa
5166	09-MAR-24 08.09.00.000000 AM	visa
5168	04-MAR-24 10.17.00.000000 AM	mastercard

Data Manipulation Language (DML): Queries

Q11- Show the total payment amount grouped by payment method order by total amount descending.

SQL query:

```
SELECT PaymentMethod, COUNT(*) AS PaymentCount, SUM(PaymentAmount) AS TotalAmount  
FROM TicketPayments  
GROUP BY PaymentMethod  
ORDER BY TotalAmount DESC;
```

Result:

PAYMENTMETHOD	PAYMENTCOUNT	TOTALAMOUNT
visa	17	3060
mastercard	14	1980
paypal	13	1910

Data Manipulation Language (DML): Queries

Q12- Union the departure and arrival times for train trip 110 from TrainTrip table with those for train trip 111 from AdvancedTrainTrip table.

SQL query:

```
SELECT TrainID, DepartureDateTime, ArrivalDateTime  
FROM TrainTrip  
WHERE trainID = 110  
UNION  
SELECT TrainID, DepartureDateTime, ArrivalDateTime  
FROM AdvancedTrainTrip  
WHERE trainID = 111;
```

Result:

TRAINID	DEPARTUREDATETIME	ARRIVALDATETIME
110	24-MAR-24 09.00.00.000000 AM	24-MAR-24 11.30.00.000000 AM
110	23-MAY-24 07.00.00.000000 PM	23-MAY-24 09.00.00.000000 PM
111	26-MAR-24 09.00.00.000000 AM	26-MAR-24 11.00.00.000000 AM
111	13-APR-24 06.00.00.000000 PM	13-APR-24 08.00.00.000000 PM

Data Manipulation Language (DML): Queries

Q13- Show the trip from the ticket table where the ticket price is higher than the highest ticket price for trips 2001 or 2012.

SQL query:

```
SELECT tripID  
FROM ticket  
WHERE TicketPrice > ALL (  
    SELECT TicketPrice  
    FROM ticket  
    WHERE tripID IN (2001, 2012) );
```

Result:

TRIPID
2011
2011
2011
2005
2005
2011
2014

Data Manipulation Language (DML): Queries

Q14- The total number of booked seats in each trip.

Result:

TRIPID	TOTALSEATS
2005	4
2001	4
2014	6
2017	4
2007	4
2011	4
2003	4
2015	3
2012	4

SQL query:

```
SELECT tripid, COUNT(seatnumbers) AS TotalSeats  
FROM ticket  
GROUP BY tripid;
```

Data Manipulation Language (DML): Queries

Q15- Show all passengers who have purchased four or more train tickets.

SQL query:

```
SELECT p.PassengerID, p.passengerName, p.passengerPhone, p.passengerEmail  
FROM Passengers p  
JOIN Ticket t ON p.PassengerID = t.PassengerID  
GROUP BY p.PassengerID, p.passengerName, p.passengerPhone, p.passengerEmail  
HAVING COUNT(DISTINCT t.tripID) >= 4;
```

Result:

PASSENGERID	PASSENGERNAME	PASSENGERPHONE	PASSENGEREMAIL
3020	Hind Al-Sulaimani	+966 54 012 3456	hind.sulaimani@email.com

Data Manipulation Language (DML): Queries

Q16- Delete the passenger who has TicketID 5299 from TripCancellation table.

SQL query:

```
DELETE FROM TripCancellation  
WHERE TicketID = 5299;
```

Before:

TICKETID	PASSENGERID	PASSENGERPHONE	PASSENGEREMAIL	PURCHASEDDATE	TRAINID	THEREASON
5001	3001	+966 50 123 4567	ahmed.alfarsi@email.com	05-FEB-24 02.08.00.000000 AM	110	Change plan
5003	3003	+966 59 345 6789	abdullah.saud@email.com	15-MAR-24 04.29.57.000000 AM	110	Personal emergency
5298	3003	+966 58 678 9012	ahmed.mutairi@email.com	13-APR-24 02.25.00.000000 AM	220	Change plan
5299	3011	+966 50 789 0123	rawan.ghanim@email.com	10-APR-24 09.40.00.000000 PM	220	Change plan
5058	3004	+966 55 456 7890	sara.rashidi@email.com	06-MAR-24 08.22.00.000000 AM	220	Personal emergency

Result:

TICKETID	PASSENGERID	PASSENGERPHONE	PASSENGEREMAIL	PURCHASEDDATE	TRAINID	THEREASON
5001	3001	+966 50 123 4567	ahmed.alfarsi@email.com	05-FEB-24 02.08.00.000000 AM	110	Change plan
5003	3003	+966 59 345 6789	abdullah.saud@email.com	15-MAR-24 04.29.57.000000 AM	110	Personal emergency
5298	3003	+966 58 678 9012	ahmed.mutairi@email.com	13-APR-24 02.25.00.000000 AM	220	Change plan
5058	3004	+966 55 456 7890	sara.rashidi@email.com	06-MAR-24 08.22.00.000000 AM	220	Personal emergency

Data Manipulation Language (DML): Queries

Q17- Select train trips along with their cancellation information, including those trips without any cancellations:(using left join).

SQL query:

```
SELECT tt.TripID, tt.passengerID, tc.TicketID AS CanceledTicketID, tc.PassengerID  
AS CanceledPassengerID, tc.PurchasedDate AS CancellationDate, tc.TheReason  
FROM Ticket tt  
LEFT JOIN TripCancellation tc ON tt.TicketID = tc.TicketID  
WHERE tt.TripID=2001
```

Result:

TRIPID	PASSENGERID	CANCELEDTICKETID	CANCELEDPASSengerID	CANCELLATIONDATE	THEREASON
2001	3001	5001	3001	05-FEB-24 02.08.00.000000 AM	Change plan
2001	3003	5003	3003	15-MAR-24 04.29.57.000000 AM	Personal emergency
2001	3005	-	-	-	-
2001	3007	-	-	-	-

Data Manipulation Language (DML): Queries

Q18- What are the details of tickets booked for either first class or child tickets on trips ending with a '5'?

SQL query:

```
SELECT TicketID, PassengerID, tripID, ArrivalStation, DepartureStation, DepartureDateTime,  
ArrivalDateTime, PurchasedDate, TicketPrice, className, seatnumbers  
FROM Ticket  
WHERE ( CLASSNAME = 'first class' OR ClassName = 'chiled Ticket' ) AND TripID LIKE '%5'  
ORDER BY TicketID ASC;
```

Result:

TICKETID	PASSENGERID	TRIPID	ARRIVALSTATION	DEPARTURESTATION	DEPARTUREDATETIME	ARRIVALDATETIME	PURCHASEDDATE	TICKETPRICE	CLASSNAME	SEATNUMBERS
5113	3015	2005	Madinah	Riyadh	04-FEB-24 12.00.00.000000 PM	04-FEB-24 04.00.00.000000 PM	22-MAR-24 01.27.00.000000 AM	330	first class	8
5115	3020	2005	Madinah	Riyadh	04-FEB-24 12.00.00.000000 PM	04-FEB-24 04.00.00.000000 PM	21-MAR-24 04.39.00.000000 AM	330	first class	9
5274	3010	2015	Dammam	Riyadh	23-MAY-24 07.02.00.000000 PM	23-MAY-24 09.32.00.000000 PM	22-APR-24 09.00.00.000000 AM	60	chiled Ticket	21

Data Manipulation Language (DML): Queries

Q19- Select the tripID, ArrivalStation, and ArrivalDateTime for AdvancedTrainTrips with arrival times between February 26, 2024 at 11:00 AM and March 26, 2024 at 11:00 AM.

SQL query:

```
SELECT tripid, ArrivalStation, ArrivalDateTime  
FROM AdvancedTrainTrip  
WHERE ArrivalDateTime BETWEEN TO_DATE('2024-02-26 11:00:00', 'YYYY-MM-DD HH24:MI:SS')  
AND TO_DATE('2024-03-26 11:00:00HH24:MI:SS');
```

Result:

TRIPID	ARRIVALSTATION	ARRIVALDATETIME
2001	Dammam	24-MAR-24 11.30.00.000000 AM
2003	Qassim	26-MAR-24 11.00.00.000000 AM
2003	Qassim	26-MAR-24 11.00.00.000000 AM

Data Manipulation Language (DML): Queries

Q20- Update the price amount for free meals raising it to 10 SAR.

SQL query:

```
UPDATE TicketType  
SET priceAmount = priceAmount + 10  
WHERE OnboardMeal = 'free';
```

Before:

CLASSNAME	ONBOARDMEAL	ONBOARDBAGGAGE	CHECKEDBAGGAGE	PRICEAMOUNT
economy	not free	10kg	20kg	110
business	free	10kg	30kg	220
Child Ticket	not free	5kg	20kg	60
first class	free	10kg	50kg	330
compartment	not free	10kg	30kg	90

Result:

CLASSNAME	ONBOARDMEAL	ONBOARDBAGGAGE	CHECKEDBAGGAGE	PRICEAMOUNT
economy	not free	10kg	20kg	110
business	free	10kg	30kg	230
Child Ticket	not free	5kg	20kg	60
first class	free	10kg	50kg	340
compartment	not free	10kg	30kg	90

Data Manipulation Language (DML): Queries

Q21- Find the job and calculate the sum of salaries for each job.

SQL query:

```
SELECT job , SUM(salary) as SUM_SALARY  
FROM employee  
GROUP BY job  
ORDER BY SUM_SALARY;
```

Result:

JOB	SUM_SALARY
Luggage organizer	15000
waiter	25000
Manager	25000

Data Manipulation Language (DML): Queries

Q22- Counts the number of trips for each ticket class where the ticket price is less than 70.

SQL query:

```
SELECT className, COUNT(*) AS numer_of_Trips  
FROM AdvancedTrainTrip  
WHERE TicketPrice < 70  
GROUP BY className;
```

Result:

CLASSNAME	NUMER_OF_TRIPS
chiled Ticket	2

Data Manipulation Language (DML): Queries

Q23- Select the names and payment amounts for passengers whose names end with 'i' and have paid either 330 or 90, ordered by passenger names.

SQL query:

```
SELECT passengerName , PaymentAmount  
FROM TicketPayments  
WHERE PaymentAmount IN ('330', '90') AND passengerName LIKE '%i'  
ORDER BY passengerName;
```

Result:

PASSENGERNAME	PAYOUTAMOUNT
Aisha Al-Ghamdi	330
Hind Al-Sulaimani	330
Hind Al-Sulaimani	330
Hind Al-Sulaimani	90
Khalid Al-Otaibi	330
Youssef Al-Ahmadi	330
Youssef Al-Ahmadi	330

Data Manipulation Language (DML): Queries

Q24- how the uppercase names of passengers, their ticket IDs, and phone numbers for passengers whose names start with 'S' .

SQL query:

```
SELECT UPPER(p.passengerName) AS passengerName, t.TicketID, p.passengerPhone  
FROM Passengers p  
FULL JOIN Ticket t ON p.PassengerID = t.PassengerID  
WHERE p.passengerName LIKE 'S%' ;
```

Result:

PASSENGERNAME	TICKETID	PASSENGERPHONE
SARA AL-RASHIDI	5194	+966 55 456 7890
SARA AL-RASHIDI	5058	+966 55 456 7890
SALMA AL-QAHTANI	5217	+966 56 234 5678
SAAD AL-ZAHRANI	-	+966 53 345 6789

Data Manipulation Language (DML): Queries

Q25- Show all the information related to Advanced Train Tickets and Trip Cancellations where the ticket class is 'economy' .

SQL query:

```
SELECT *
FROM AdvancedTrainTicket
NATURAL JOIN TripCancellation
WHERE AdvancedTrainTicket.className LIKE 'economy' ;
```

Result:

TICKET ID	SEAT NUMBER	PAYMENT METHOD	PAYMENT AMOUNT	CLASS NAME	ONBOARD BAGGAGE	CHECKED BAGGAGE	PASSENGER ID	PASSENGER PHONE	PASSENGER NAME	PURCHASEDATETIME	TRAINID	THEREASON
5001	11	paypal	110	economy	10kg	20kg	3001	+966 50 1254674	Ahmad Al-Farsi	05-FEB-2024 02:08:00 PM	110	Change plan
5003	13	mastercard	110	economy	10kg	20kg	3003	+966 59 2947569	Abdullah Al-Saud	15-MAR-2024 04:29:00 PM	110	Personal emergency

Data Manipulation Language (DML): Queries

26)

```
ALTER TABLE AdvancedTrainTrip  
ADD CONSTRAINT fk_classname_AD_Trip  
FOREIGN KEY (className) REFERENCES TicketType(className);
```

```
ALTER TABLE TRIPCANCELLATION  
ADD CONSTRAINT fk_trainID_TC  
FOREIGN KEY (trainID) REFERENCES Train(trainID);
```

```
ALTER TABLE TICKETPAYMENTS  
ADD CONSTRAINT fk_TicketID_TP  
FOREIGN KEY (TicketID) REFERENCES Ticket(TicketID);
```

```
ALTER TABLE employee  
ADD CONSTRAINT fk_employeeTrainID  
FOREIGN KEY (trainID) REFERENCES train(trainID);
```

Data Manipulation Language (DML): Queries

Q27- Show trip ID, train ID, and arrival date time from TrainTrip table, excluding trips '2001' and '2017' and trains starting with '3', order by arrival date time.

SQL query:

```
SELECT tripID , trainID , ArrivalDateTime  
FROM TrainTrip  
WHERE tripID NOT IN ('2001','2017') AND trainID NOT LIKE '3%'  
ORDER BY ArrivalDateTime ;
```

Result:

TRIPID	TRAINID	ARRIVALDATETIME
2003	111	26-MAR-24 11.30.00.000000 AM
2005	112	02-APR-24 02.00.00.000000 PM
2007	113	10-APR-24 10.00.00.000000 AM
2008	113	10-APR-24 04.00.00.000000 PM
2010	111	13-APR-24 08.00.00.000000 PM
2011	114	20-MAY-24 05.30.00.000000 PM
2012	114	21-MAY-24 05.30.00.000000 PM
2014	112	23-MAY-24 05.00.00.000000 PM
2015	110	23-MAY-24 09.00.00.000000 PM

Data Manipulation Language (DML): Queries

Q28- Which trips have a total payment for economy class tickets more than 110 ?

SQL query:

```
SELECT TicketID, SUM(PaymentAmount) AS total_payment_Amount  
FROM AdvancedTrainTicket  
WHERE className = 'economy'  
HAVING SUM(PaymentAmount)>110  
GROUP BY TicketID;
```

Result:

TICKETID	TOTAL_PAYMENT_AMOUNT
5196	220

Data Manipulation Language (DML): Queries

Q29- Select the passengers who have purchased tickets for more than one trip departing from the same station.

SQL query:

```
SELECT p.PassengerID, p.passengerName, p.passengerPhone, p.passengerEmail, COUNT(tt.tripID) AS  
total_trips  
FROM Passengers p  
JOIN Ticket t ON p.PassengerID = t.PassengerID  
JOIN AdvancedTrainTrip tt ON t.tripID = tt.TripID  
WHERE tt.DepartureStation = 'Riyadh'  
GROUP BY p.PassengerID, p.passengerName, p.passengerPhone, p.passengerEmail  
HAVING COUNT(DISTINCT tt.TripID) > 1
```

Result:

PASSENGERID	PASSENGERNAME	PASSENGERPHONE	PASSENGEREMAIL	TOTAL_TRIPS
3008	Noura Al-Mansoor	+966 53 890 1234	noura.mansoor@email.com	4
3005	Mohammed Al-Harbi	+966 50 567 8901	mohammed.harbi@email.com	3
3016	Reem Al-Abdullah	+966 54 678 9012	reem.abdullah@email.com	4
3004	Sara Al-Rashidi	+966 55 456 7890	sara.rashidi@email.com	4
3001	Ahmed Al-Farsi	+966 50 123 4567	ahmed.alfarsi@email.com	3

Data Manipulation Language (DML): Queries

Q30- Show the total number of tickets sold and the total sales amount generated for each class where trip ID 2001 Or 2003.

SQL query:

```
SELECT Class_Name, COUNT(*) AS Total_Tickets, SUM(Price) AS Total_Sales  
FROM Passengers_info  
GROUP BY Class_Name;
```

Result:

CLASS_NAME	TOTAL_TICKETS	TOTAL_SALES
business	2	440
economy	6	660

Data Manipulation Language (DML): Queries

Q31- Show the names, email addresses, and phone numbers of employees associated with train number 110 in ascending order.

SQL query:

```
SELECT employeeName, employeeEmail, employeePhone  
FROM employee  
WHERE trainID = 110  
ORDER BY employeeName ASC;
```

Result:

EMPLOYEE NAME	EMPLOYEE EMAIL	EMPLOYEE PHONE
Abdulaziz Al-Dosari	abdulaziz.dosari@email.com	+966583456789
Lina Al-Otaibi	lina.otaibi@email.com	+966531234567
Nasser Al-Saleh	nasser.saleh@email.com	+966570123456
Sara Al-Harbi	sara.harbi@email.com	+966562345678

Data Manipulation Language (DML): Queries

Q32- Alter on Table station to modify stationID to char(4).

SQL:

```
ALTER TABLE Stations  
MODIFY StationID CHAR(4);
```

Before:

Table	Column	Data Type	Length
STATIONS	STATIONID	CHAR	2
	STATIONNAME	VARCHAR2	100

Result:

Table	Column	Data Type	Length
STATIONS	STATIONID	CHAR	4
	STATIONNAME	VARCHAR2	100

Data Manipulation Language (DML): Queries

Q33- Select passenger ID, name, and 'visa' payment method from the Ticketpayments table, joined with the passengers table, grouped by passenger, and sorted in descending order by passenger name.

SQL query:

```
SELECT Ticketpayments.passengerID, Ticketpayments.passengerName  
, Ticketpayments.paymentMethod  
FROM Ticketpayments  
JOIN passengers ON Ticketpayments.passengerID = passengers.passengerID  
AND Ticketpayments.passengerName = passengers.passengerName  
WHERE Ticketpayments.paymentMethod LIKE 'visa'  
GROUP BY Ticketpayments.passengerID, Ticketpayments.passengerName  
, Ticketpayments.paymentMethod  
ORDER BY Ticketpayments.passengerName DESC
```

Result:

PASSENGERID	PASSENGERNAME	PAYMENTMETHOD
3015	Youssef Al-Ahmadi	visa
3004	Sara Al-Rashidi	visa
3016	Reem Al-Abdullah	visa
3008	Noura Al-Mansoor	visa
3007	Khalid Al-Otaibi	visa
3020	Hind Al-Sulaimani	visa
3002	Fatima Al-Mutairi	visa
3017	Fahad Al-Dossary	visa
3006	Aisha Al-Ghamdi	visa
3001	Ahmed Al-Farsi	visa

More than 10 rows available. Increase rows selector to view more rows.

Data Manipulation Language (DML): Queries

Q34- Show ticket price and class name for all trains with excluding the arrival stations ends with 'h' .

SQL query:

```
SELECT className , TicketPrice  
FROM AdvancedTrainTrip  
WHERE ArrivalStation NOT LIKE '%h' ;
```

Result:

CLASSNAME	TICKETPRICE
economy	110
economy	110
business	220
business	220
economy	110
chiled Ticket	60
economy	110
chiled Ticket	60

Data Manipulation Language (DML): Queries

Q35- Counts the number of business class tickets for each trip with ID 2017 by joining the TrainTrip, Ticket, and AdvancedTrainTicket tables.

SQL query:

```
SELECT t.TripID, COUNT(*) AS NumberOfBusinessClass
FROM TrainTrip t
JOIN Ticket ti ON t.TripID = ti.tripID
JOIN AdvancedTrainTicket att ON ti.TicketID =
att.TicketID
WHERE att.className = 'business' AND ti.tripID=2017
GROUP BY t.TripID;
```

Result:

TRIPID	NUMBEROFBUSINESSCLASS
2017	2

Data Manipulation Language (DML): Queries

Q36- Count the number of trips in every station in a descnding order grouped by arrival stations.

SQL query:

```
SELECT tt.ArrivalStation, COUNT(tt.TripID) AS Total_trips  
FROM AdvancedTrainTrip tt  
GROUP BY tt.ArrivalStation  
ORDER BY Total_trips DESC;
```

Result:

ARRIVALSTATION	TOTAL_TRIPS
Qassim	5
Riyadh	4
Dammam	3
Madinah	3
Jeddah	2

Data Manipulation Language (DML): Queries

Q37- Show the average payment amount per passenger for each class.

SQL query:

```
SELECT className, AVG(PaymentAmount) AS AvgPaymentPerPassenger,  
COUNT(*) AS total_trips  
FROM AdvancedTrainTicket  
GROUP BY className ;
```

Result:

CLASSNAME	AVGPAYMENTPERPASSENGER	TOTAL_TRIPS
compartiment	90	5
business	220	2
economy	117.857142857142857142857142857143	14
Child Ticket	60	2
first class	330	6

Data Manipulation Language (DML): Queries

Q38- Show all the ticket information for a passenger named "Ahmed Al-Farsi"

SQL query:

```
SELECT *
FROM Ticket
JOIN Passengers ON Ticket.PassengerID = Passengers.PassengerID
WHERE Passengers.passengerName = 'Ahmed Al-Farsi'
```

Result:

TICKETID	PASSENGERID	TRIPID	ARRIVALSTATION	DEPARTURESTATION	DEPARTUREDATE	ARRIVALDATE	TIME	PURCHASEDATE	PAYMENTAMOUNT	CLASSNAME
5001	3001	2001	Dammam	Riyadh	24-MAR-24 09.00.0	24-MAR-24 11.30	05-FEB-24 02.08.00.000000 AM			economy
5273	3001	2015	Dammam	Riyadh	23-MAY-24 07.01.0	23-MAY-24 09.31	20-APR-24 10.15.00.000000 PM			economy
5221	3001	2014	Riyadh	Madinah	23-MAY-24 01.00.0	23-MAY-24 05.00	25-APR-24 11.25.00.000000 AM			economy

SEATNUMBERS	TICKETPRICE	PASSENGERID	PASSENGERNAME	PASSENGERPHONE	PASSENGEREMAIL
11	110	3001	Ahmed Al-Farsi	+966 50 123 4567	ahmed.alfarsi@email.com
14	110	3001	Ahmed Al-Farsi	+966 50 123 4567	ahmed.alfarsi@email.com
11	110	3001	Ahmed Al-Farsi	+966 50 123 4567	ahmed.alfarsi@email.com

Data Manipulation Language (DML): Queries

Q39- Find the number of tuples in the TripCancellation of all the reason.

SQL query:

```
SELECT TheReason, COUNT(*) AS Cancellation_Count  
FROM TripCancellation  
GROUP BY TheReason;
```

Result:

THEREASON	CANCELLATION_COUNT
Personal emergency	2
Change plan	3

Data Manipulation Language (DML): Queries

Q40- Show all passengers who have canceled their tickets and the cancellation reason from Passenger table joining with TripCancellation table by passenger ID

SQL query:

```
SELECT Passengers.PassengerID, Passengers.passengerName, Passengers.passengerPhone,  
Passengers.passengerEmail, TripCancellation.TheReason  
FROM Passengers  
JOIN TripCancellation ON Passengers.PassengerID = TripCancellation.PassengerID;
```

Result:

PASSENGERID	PASSENGERNAME	PASSENGERPHONE	PASSENGEREMAIL	THEREASON
3001	Ahmed Al-Farsi	+966 50 123 4567	ahmed.alfarsi@email.com	Change plan
3003	Abdullah Al-Saud	+966 59 345 6789	abdullah.saud@email.com	Personal emergency
3003	Abdullah Al-Saud	+966 59 345 6789	abdullah.saud@email.com	Change plan
3004	Sara Al-Rashidi	+966 55 456 7890	sara.rashidi@email.com	Personal emergency
3011	Abdulaziz Al-Mutlaq	+966 58 123 4567	abdulaziz.mutlaq@email.com	Change plan

Data Manipulation Language (DML): Queries

Q41- What is the minimum and maximum salaries from the "employee" table?

SQL query:

```
SELECT MIN(salary) AS min_salary, MAX(salary) AS max_salary  
FROM employee;
```

Result:

MIN_SALARY	MAX_SALARY
2500	5000

Data Manipulation Language (DML): Queries

Q42- Find all fields from the TicketPayments table where the payment amount exceeds 300 and the payment method is either PayPal or Visa.

SQL query:

```
SELECT *
FROM TicketPayments
WHERE PaymentAmount > 300 AND (PaymentMethod = 'paypal' OR PaymentMethod = 'visa');
```

Result:

PAYMENTID	PASSENGERID	PASSENGERNAME	TICKETID	PAYOUTAMOUNT	PURCHASEDDATE	PAYMENTMETHOD
6113	3015	Youssef Al-Ahmadi	5113	330	22-MAR-24 01.27.00.000000 AM	visa
6115	3020	Hind Al-Sulaimani	5115	330	21-MAR-24 04.39.00.000000 AM	visa
6188	3015	Youssef Al-Ahmadi	5188	330	14-MAY-24 11.48.00.000000 AM	visa
6190	3007	Khalid Al-Otaibi	5190	330	20-APR-24 10.36.00.000000 AM	paypal

Data Manipulation Language (DML): Queries

Q43- Show TripCancellation table where the TicketID falls within the range of 5001 to 5100.

SQL query:

```
SELECT *
FROM TripCancellation
WHERE TicketID BETWEEN 5001 AND 5100;
```

Result:

TICKETID	PASSENGERID	PASSENGERPHONE	PASSENGEREMAIL	PURCHASEDDATE	TRAINID	THEREASON
5001	3001	+966 50 123 4567	ahmed.alfarsi@email.com	05-FEB-24 02.08.00.000000 AM	110	Change plan
5003	3003	+966 59 345 6789	abdullah.saud@email.com	15-MAR-24 04.29.57.000000 AM	110	Personal emergency
5058	3004	+966 55 456 7890	sara.rashidi@email.com	06-MAR-24 08.22.00.000000 AM	220	Personal emergency

Data Manipulation Language (DML): Queries

Q44- Show the passengers who canceled their trip and their trip id 2003 from passenger table joined with ticket, and train trip joined with trip cancelation by ticketID

SQL query:

```
SELECT p. Passenger ID, p. passengerName, p. passengerPhone, p. passengerEmail  
FROM Passengers p  
JOIN Ticket t ON p. Passenger ID = t. Passenger ID  
JOIN TrainTrip tt ON t. tripID = tt. TripID  
LEFT JOIN TripCancelation tc ON t. TicketID = tc. TicketID  
WHERE tt. TripID = 2003 AND tc. TicketID IS NOT NULL;
```

Result:

PASSENGERID	PASSENGERNAME	PASSENGERPHONE	PASSENGEREMAIL
3004	Sara Al-Rashidi	+966 55 456 7890	sara.rashidi@email.com

Data Manipulation Language (DML): Queries

Q45- Show the most common classes and their respective occurrence counts.

SQL query:

```
SELECT className , COUNT(className) AS class_total  
FROM AdvancedTrainTicket  
GROUP BY className  
ORDER BY class_total DESC;
```

Result:

CLASSNAME	CLASS_TOTAL
economy	14
first class	6
compartment	5
business	2
Child Ticket	2

Data Manipulation Language (DML): Queries

Q46- Show the total number of tickets purchased by each passenger in ascending order.

SQL query:

```
SELECT PassengerID AS Passenger_ID,  
COUNT(*) AS Total_Tickets  
FROM Ticket  
GROUP BY PassengerID  
ORDER BY Total_Tickets;
```

Result:

TOTAL_TICKETS	PASSENGER_ID
1	3002
1	3010
1	3017
1	3012
2	3006
2	3016
2	3011
2	3018
2	3004
2	3019
2	3003
2	3007
2	3009
2	3005
3	3015
3	3008
3	3001
4	3020

Data Manipulation Language (DML): Queries

Q47- Find the train ID, number of managers, and total number of trips for each train.

SQL query:

```
SELECT te.trainID, te.managers_name, COUNT(t.TripID) AS total_trips  
FROM TrainTrip t  
JOIN train_manager_view te ON t.trainID = te.trainID  
GROUP BY te.trainID, te.managers_name;
```

Result:

TRAINID	MANAGERS_NAME	TOTAL_TRIPS
111	Nouf Al-Sulaiman	2
112	Rawan Al-Muhanna	2
110	Nasser Al-Saleh	2
113	Dana Al-Harbi	2
114	Sara Al-Dakheel	3

Data Manipulation Language (DML): Queries

Q48- Show the uppercase names of passengers whose names start with 'S' along with their TicketIDs, using a left join between the Passengers and Ticket tables.

SQL query:

```
SELECT UPPER(p.passengerName) AS passengerName, t.TicketID  
FROM Passengers p  
LEFT JOIN Ticket t ON p.Passenger ID = t.Passenger ID  
WHERE p.passengerName LIKE 'S%' ;
```

Result:

PASSENGERNAME	TICKETID
SARA AL-RASHIDI	5194
SARA AL-RASHIDI	5058
SALMA AL-QAHTANI	5217
SAAD AL-ZAHRANI	-

Data Manipulation Language (DML): Queries

Q49- Show the passengers how haven't canceled for trip 2003 from passenger table joined with ticket, and train trip joined with trip cancelation by ticketID

SQL query:

```
SELECT p.PassengerID, p.passengerName, p.passengerPhone, p.passengerEmail  
FROM Passengers p  
JOIN Ticket t ON p.PassengerID = t.PassengerID  
JOIN TrainTrip tt ON t.tripID = tt.TripID  
LEFT JOIN TripCancelation tc ON t.TicketID = tc.TicketID  
WHERE tt.TripID = 2003 AND tc.TicketID IS NULL;
```

Result:

PASSENGERID	PASSENGERNAME	PASSENGERPHONE	PASSENGEREMAIL
3006	Aisha Al-Ghamdi	+966 54 678 9012	aisha.ghamdi@email.com
3002	Fatima Al-Mutairi	+966 55 234 5678	fatima.mutairi@email.com
3008	Noura Al-Mansoor	+966 53 890 1234	noura.mansoor@email.com

Data Manipulation Language (DML): Queries

Q50- Update passengerEmail who is passengerID 3013 of Passengers.

SQL query:

```
UPDATE Passengers  
SET passengerEmail = 'saeedy666@example.com'  
WHERE passengerid = 3013 ;
```

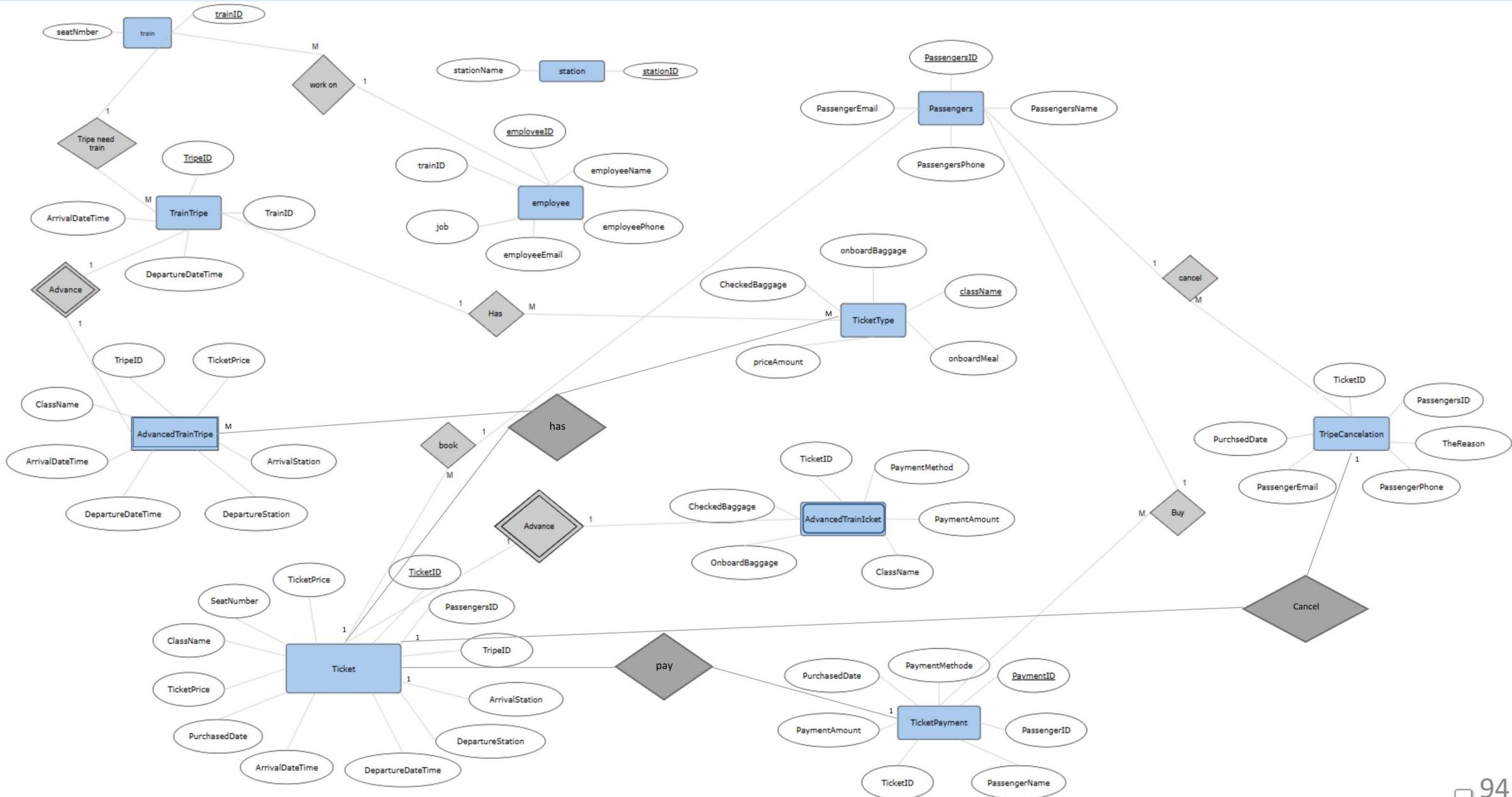
Before:

PASSENGERID	PASSENGERNAME	PASSENGERPHONE	PASSENGEREMAIL
3013	Saad Al-Zahrani	+966 53 345 6789	saeed111@exampel.com

Result:

PASSENGERID	PASSENGERNAME	PASSENGERPHONE	PASSENGEREMAIL
3013	Saad Al-Zahrani	+966 53 345 6789	saeedy666@example.com

Entity relational Model (ERM)



Normalization Theory: 0 Normal Form

TrainTrip Table

TripID	Trian ID	Seat.No	Arrival Station	ARstation ID	Departur e Station	DRstation ID	Departure DateTime	Arrival DateTime	Class Name	Ticke t Price
2003	110	40	Qassim	Q11	Riyadh	R11	26-MAR-24 09.00 AM	26-MAR-24 11.00 AM	economy	110
2003	110	40	Qassim	Q11	Riyadh	R11	26-MAR-24 09.00 AM	26-MAR-24 11.00 AM	business	220
2005	112	60	Madinah	M11	Riyadh	R11	02-APR-24 12.00 PM	02-APR-24 04.00 PM	first class	330
2005	112	60	Madinah	M11	Riyadh	R11	02-APR-24 12.00 PM	02-APR-24 04.00 PM	compartm ent	90
2012	113	30	Qassim	Q11	Riyadh	R11	21-MAY-24 03.00 PM	21-MAY-24 05.30.00 PM	economy	110
2012	113	30	Qassim	Q11	Riyadh	R11	21-MAY-24 03.00 PM	21-MAY-24 05.30.00 PM	child Ticket	60
...

Normalization Theory: 1 Normal Form

- Now, the attributes (ClassName, TicketPrice) of table AdvancedTrainTrip contains atomic value.

TripInfo Table:

Trip ID	Train ID	Seat. No	Arrival Station	ARstation ID	Departure Station	DRstation ID	Departure DateTime	Arrival DateTime
2003	110	40	Qassim	Q11	Riyadh	R11	26-MAR-24 09.00 AM	26-MAR-24 11.00 AM
2005	112	60	Madinah	M11	Riyadh	R11	02-APR-24 12.00 PM	02-APR-24 04.00 PM
2012	113	30	Qassim	Q11	Riyadh	R11	21-MAY-24 03.00 PM	21-MAY-24 05.30.00 PM

ClassInfo Table:

TripID	Class Name	Ticket Price
2003	economy	110
2003	business	220
2005	first class	330
2005	compartment	90
2012	economy	110
2012	child Ticket	60

Normalization Theory: 2 Normal Form

- Now, after applying second normal form, all non-key attributes fully functional on the primary key, no partial dependency .

TripInfo Table:

Trip ID	Train ID	Seat. No	Departure DateTime	Arrival DateTime
2003	110	40	26-MAR-24 09.00 AM	26-MAR-24 11.00 AM
2005	112	60	02-APR-24 12.00 PM	02-APR-24 04.00 PM
2012	114	30	21-MAY-24 03.00 PM	21-MAY-24 05.30.00 PM

TripArrivalDepartureInfo Table:

TripID	ARstationID	DRstationID
2003	Q11	R11
2005	M11	R11
2012	Q11	R11

ClassInfo Table:

TripID	Class Name	Ticket Price
2003	economy	110
2003	business	220
2005	first class	330
2005	compartment	90
2012	economy	110
2012	child Ticket	60

SrtationInfo Table:

Station	StationID
Qassim	Q11
Madinah	M11
Riyadh	R11

Normalization Theory: 3 Normal Form

- Now, after applying third normal form, all transitive dependency removed.

TripInfo Table:

Trip ID	Train ID	Departure DateTime	Arrival DateTime
2003	110	26-MAR-24 09.00 AM	26-MAR-24 11.00 AM
2005	112	02-APR-24 12.00 PM	02-APR-24 04.00 PM
2012	114	21-MAY-24 03.00 PM	21-MAY-24 05.30.00 PM

TripArrivalDepartureInfo Table:

TripID	ARstationID	DRstationID
2003	Q11	R11
2005	M11	R11
2012	Q11	R11

ClassPrice Table:

Class Name	Ticket Price
economy	110
business	220
first class	330
compartment	90
child Ticket	60

ClassInfo Table:

TripID	Class Name
2003	economy
2003	business
2005	first class
2005	compartment
2012	economy
2012	child Ticket

SrtationInfo Table:

Station	StationID
Qassim	Q11
Madinah	M11
Riyadh	R11

SeatInfo Table:

TrainID	Seat.No
110	40
112	60
113	30

Normalization Theory: 0 Normal Form

TicketPayments Table:

Payment ID	Passenger ID	Passenger Name	Passenger Type	TicketID	Ticket Price	Payment Method	PaymentDate
6001	3001	Ahmed Al-Farsi	male	5001	110	paypal	05-FEB-24 02.08.00 AM
6002	3001	Ahmed Al-Farsi	male	5016	110	mastercard	06-FEB-24 04.08.00 AM
6003	3002	Abdullah Al-Saud	chiled	5003	60	mastercard	15-MAR-24 04.29.00 AM
6004	3002	Abdullah Al-Saud	chiled	5004	60	visa	20-MAR-24 05.29.00 AM
6007	3003	Sara Al-Otaibi	female	5007	110	visa	22-FEB-24 06.25.00 AM
6008	3003	Sara Al-Otaibi	female	5008	220	paypal	24-FEB-24 08.25.00 AM
...

Normalization Theory: 1 Normal Form

- Now, the attributes (ClassName, TicketPrice) of table AdvancedTrainTrip contains atomic value.

PaymentsInfo Table:

Payment ID	Passenger ID	TicketID	Ticket Price	Payment Method	PaymentDate
6001	3001	5001	110	paypal	05-FEB-24 02.08.00 AM
6002	3001	5016	110	mastercard	06-FEB-24 04.08.00 AM
6003	3002	5003	60	mastercard	15-MAR-24 04.29.00 AM
6004	3002	5004	60	visa	20-MAR-24 05.29.00 AM
6007	3003	5007	110	visa	22-FEB-24 06.25.00 AM
6008	3003	5008	220	paypal	24-FEB-24 08.25.00 AM

PassengerInfo Table:

Passenger ID	Passenger Name	Passenger Type
3001	Ahmed Al-Farsi	male
3002	Abdullah Al-Saud	child
3003	Sara Al-Otaibi	female

Normalization Theory: 2 Normal Form

- Now, after applying second normal form, all non-key attributes fully functional on the primary key, no partial dependency .

PaymentsInfo Table:

Payment ID	TicketID	Ticket Price	Payment Method	PaymentDate
6001	5001	110	paypal	05-FEB-24 02.08.00 AM
6002	5016	110	mastercard	06-FEB-24 04.08.00 AM
6003	5003	60	mastercard	15-MAR-24 04.29.00 AM
6004	5004	60	visa	20-MAR-24 05.29.00 AM
6007	5007	110	visa	22-FEB-24 06.25.00 AM
6008	5008	220	paypal	24-FEB-24 08.25.00 AM

PassengerInfo Table:

Passenger ID	Passenger Name	Passenger Type
3001	Ahmed Al-Farsi	male
3002	Abdullah Al-Saud	child
3003	Sara Al-Otaibi	female

TicketInfo Table:

TicketID	Passenger ID
5001	3001
5016	3001
5003	3002
5004	3002
5007	3003
5008	3003

Normalization Theory: 3 Normal Form

- Now, after applying third normal form, all transitive dependency removed.

PaymentsInfo Table:

Payment ID	TicketID	Payment Method	PaymentDate
6001	5001	paypal	05-FEB-24 02.08.00 AM
6002	5016	mastercard	06-FEB-24 04.08.00 AM
6003	5003	mastercard	15-MAR-24 04.29.00 AM
6004	5004	visa	20-MAR-24 05.29.00 AM
6007	5007	visa	22-FEB-24 06.25.00 AM
6008	5008	paypal	24-FEB-24 08.25.00 AM

PassengerInfo Table:

Passenger ID	Passenger Name	Passenger Type
3001	Ahmed Al-Farsi	male
3002	Abdullah Al-Saud	child
3003	Sara Al-Otaibi	female

TicketPriceInfo Table:

TicketID	Ticket Price
5001	110
5016	110
5003	60
5004	60
5007	110
5008	220

PassengerTicketInfo Table:

TicketID	Passenger ID
5001	3001
5016	3001
5003	3002
5004	3002
5007	3003
5008	3003

Normalization Theory: 0 Normal Form

Employee Table:

Employee ID	Train ID	Cabin.No	Employee Name	Employee Phone	Employee Adress	Job	salary
4000	110	1	Nasser Al-Saleh	966570123456	Al Corniche Road, Jeddah	Manager	10000
4000	110	1	Nasser Al-Saleh	966827934789	King Fahd Road, Dammam	Manager	10000
4001	110	4	Lina Al-Otaibi	966531234567	Zamzam Street, Mecca	Luggage organizer	5000
4001	110	4	Lina Al-Otaibi	966387453080	King Abdulaziz Branch Road, Riyadh	Luggage organizer	5000
4002	110	3	Sara Al-Harbi	966562345678	King Abdulaziz Road, Maddinah	waiter	5500
4002	110	3	Sara Al-Harbi	966475672028	King Fahd Road, Riyadh	waiter	5500
...

Normalization Theory: 1 Normal Form

- Now, the attributes (ClassName, TicketPrice) of table AdvancedTrainTrip contains atomic value.

Employee_Info Table:

Employee ID	Employee Name	Employee Phone	Employee Adress
4000	Nasser Al-Saleh	966570123456	Al Corniche Road, Jeddah
4000	Nasser Al-Saleh	966827934789	King Fahd Road, Dammam
4001	Lina Al-Otaibi	966531234567	Zamzam Street, Mecca
4001	Lina Al-Otaibi	966387453080	King Abdulaziz Branch Road, Riyadh
4002	Sara Al-Harbi	966562345678	King Abdulaziz Road, Maddinah
4002	Sara Al-Harbi	966475672028	King Fahd Road, Riyadh

Job_Info Table:

Employee ID	Train ID	Cabin.No	Job	salary
4000	110	1	Manager	10000
4001	110	4	Luggage organizer	5000
4002	110	3	waiter	5500

Normalization Theory: 2 Normal Form

- Now, after applying second normal form, all non-key attributes fully functional on the primary key, no partial dependency .

Employee_Info Table:

Employee ID	Employee Name	Employee Phone	Employee Adress
4000	Nasser Al-Saleh	966570123456	Al Corniche Road, Jeddah
4000	Nasser Al-Saleh	966827934789	King Fahd Road, Dammam
4001	Lina Al-Otaibi	966531234567	Zamzam Street, Mecca
4001	Lina Al-Otaibi	966387453080	King Abdulaziz Branch Road, Riyadh
4002	Sara Al-Harbi	966562345678	King Abdulaziz Road, Mardinah
4002	Sara Al-Harbi	966475672028	King Fahd Road, Riyadh

Job_Info Table:

Employee ID	Job	salary
4000	Manager	10000
4001	Luggage organizer	5000
4002	waiter	5500

Cabin.NO_Info Table:

Employee ID	Cabin.No
4000	1
4001	4
4002	3

EmpTrain_Info Table:

Employee ID	TrainID
4000	110
4001	110
4002	110

Normalization Theory: 3 Normal Form

- Now, after applying third normal form, all transitive dependency removed.

Employee_Info Table:

Employee ID	Employee Name	Employee Phone	Employee Adress
4000	Nasser Al-Saleh	966570123456	Al Corniche Road, Jeddah
4000	Nasser Al-Saleh	966827934789	King Fahd Road, Dammam
4001	Lina Al-Otaibi	966531234567	Zamzam Street, Mecca
4001	Lina Al-Otaibi	966387453080	King Abdulaziz Branch Road, Riyadh
4002	Sara Al-Harbi	966562345678	King Abdulaziz Road, Maddinah
4002	Sara Al-Harbi	966475672028	King Fahd Road, Riyadh

Job_Info Table:

Employee ID	Job
4000	Manager
4001	Luggage organizer
4002	waiter

Salary_Info Table:

Job	salary
Manager	10000
Luggage organizer	5000
waiter	5500

Cabin.NO_Info Table:

Employee ID	Cabin.No
4000	1
4001	4
4002	3

EmpTrain_Info Table:

Employee ID	TrainID
4000	110
4001	110
4002	110