Project Report On

Railway Management System



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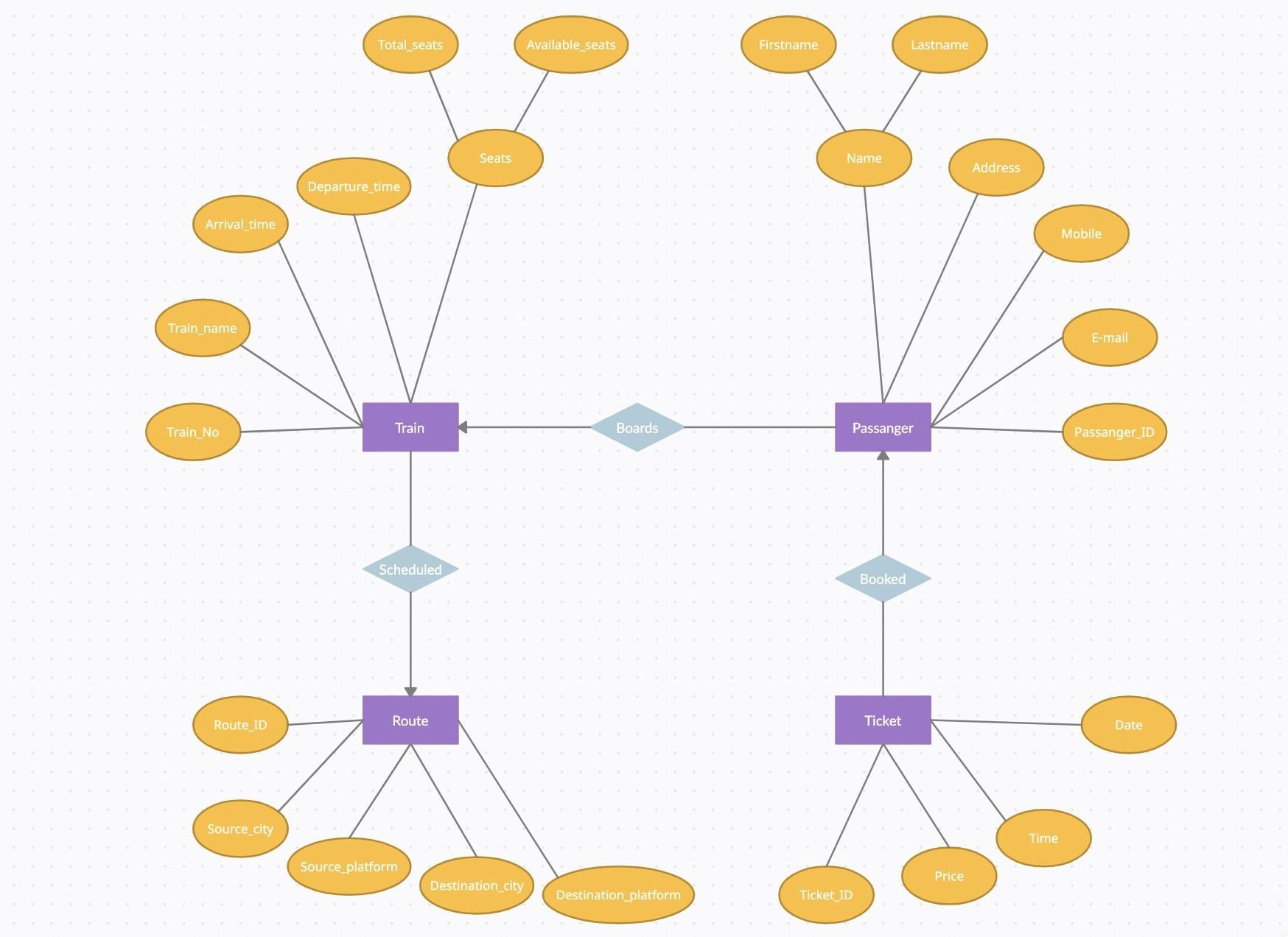
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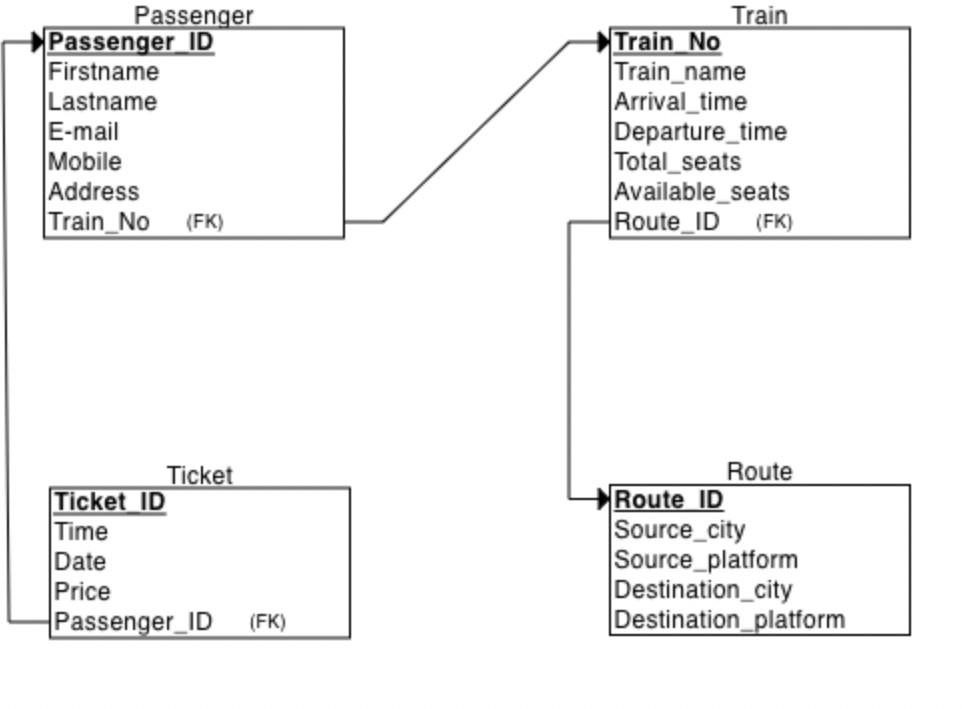
**Problem Statement**

A database to keep record of train timings and tracking the routes of trains. Moreover, keeping track of the total number of seats, the number of seats available and the price of each type of ticket while also keeping record of all the passengers and their type of ticket.

# Entity-Relationship Diagram



**ER Diagram to Table**



**Normalized Table**

Ticket Table

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Ticket\_ID | Time | Date | Price | Passenger\_ID |

Passenger Table

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Passenger\_ ID | First name | Last name | E-mail | Mobile | Address | Train\_No |

Train Table

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Train\_No | Train\_ name | Arrival\_ time | Departure\_ time | Total\_ seats | Available\_ seats | Route\_ ID |

Route Table

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Route\_ID | Source\_city | Source\_ platform | Destination\_ city | Destination\_ platform |

**Creating Table**

create table Route(Route\_ID int primary key, Source\_city varchar(20),

Source\_platform int, Destination\_city varchar(20), Destination\_platform int);

create table Train(Train\_No int primary key, Train\_name varchar(20),

Arrival\_time timestamp, Departure\_time timestamp, Total\_seats int, Available\_seats int, Route\_ID int,

CONSTRAINT FK\_Route\_ID FOREIGN KEY (Route\_ID)

REFERENCES Route(Route\_ID));

create table Passenger(Passenger\_ID int primary key, Firstname varchar(20),

Lastname varchar(20), Email varchar(30), Mobile number(10), Address varchar(50), Train\_No int,

CONSTRAINT FK\_Train\_No FOREIGN KEY (Train\_No) REFERENCES Train(Train\_No));

create table Ticket(Ticket\_ID int primary key, Train\_time timestamp,

Train\_date date, Price number(10), Passenger\_ID int,

CONSTRAINT FK\_Passenger\_ID FOREIGN KEY (Passenger\_ID) REFERENCES Passenger(Passenger\_ID));

# Inserting data in the Table

INSERT INTO Route VALUES(1, 'Delhi', 2, 'Patiala', 3);

INSERT INTO Route VALUES(2, 'Mumbai', 1, 'Kolkata', 6); INSERT INTO Route VALUES(3, 'Chennai', 4, 'Ahemdabad', 4); INSERT INTO Route VALUES(4, 'Shimla', 7, 'Bhopal', 5); INSERT INTO Route VALUES(5, 'Goa', 3, 'Bengluru', 8);

Select \* from Route;

INSERT INTO Train VALUES(123,'PTL Express','10-Jun-2022 07:20:00am','9-Jun-2022 10:30:00pm',1000,843,1);

INSERT INTO Train VALUES(666,'BLR Shatabdi','19-May-2022 08:05:00pm','18-Jan2022 12:35:00am',500,321,5);

INSERT INTO Train VALUES(341,'Bengal EXP','22-May-2022 11:30:00am','21-May-2022 02:30:30pm',500,254,2);

INSERT INTO Train VALUES(101,'MP EXP','26-May-2022 11:30:00pm','26-May-2022 02:30:30pm',1000,754,4);

INSERT INTO Train VALUES(255,'GUJ Express','31-May-2022 09:30:00am','30-May-2022 12:30:30pm',500,254,3);

Select \* from Train;

INSERT INTO Passenger VALUES(124, 'Ishan', 'Jain', 'ijain@gmail.com', 9899898812, 'Model Town, Ludhiana', 123);

INSERT INTO Passenger VALUES(73, 'Raj', 'Gupta', 'rgupta@gmail.com', 9873654812, 'Mall road, Shimla', 101);

INSERT INTO Passenger VALUES(492, 'Rohit', 'Thapar', 'rthapar@gmail.com', 8899898833, 'Ashok Vihar, Delhi', 123);

INSERT INTO Passenger VALUES(44, 'Riya', 'Rampal', 'rrampal@gmail.com', 7645898812, 'Beach road, Goa', 666);

INSERT INTO Passenger VALUES(317, 'Ishani', 'Sharma', 'isharma@gmail.com', 6439894313, 'Chennai', 255);

Select \* from Passenger;

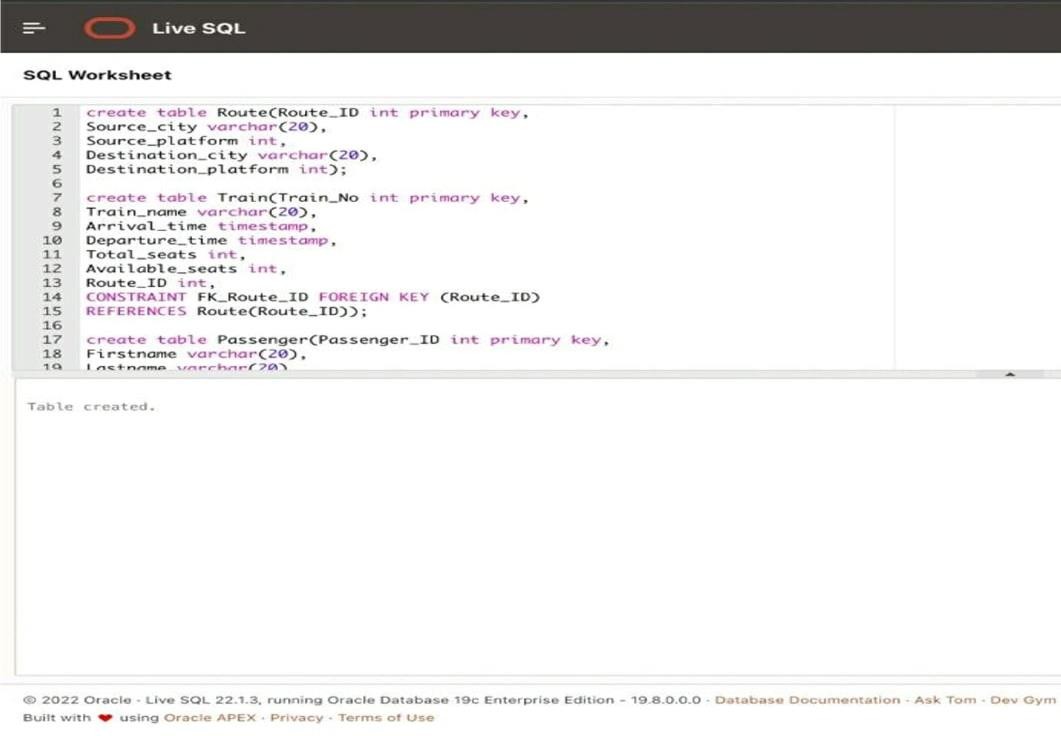
INSERT INTO Ticket VALUES(2819542664,'26-May-2022 02:30:30pm','26-May-2022',1500, 73);

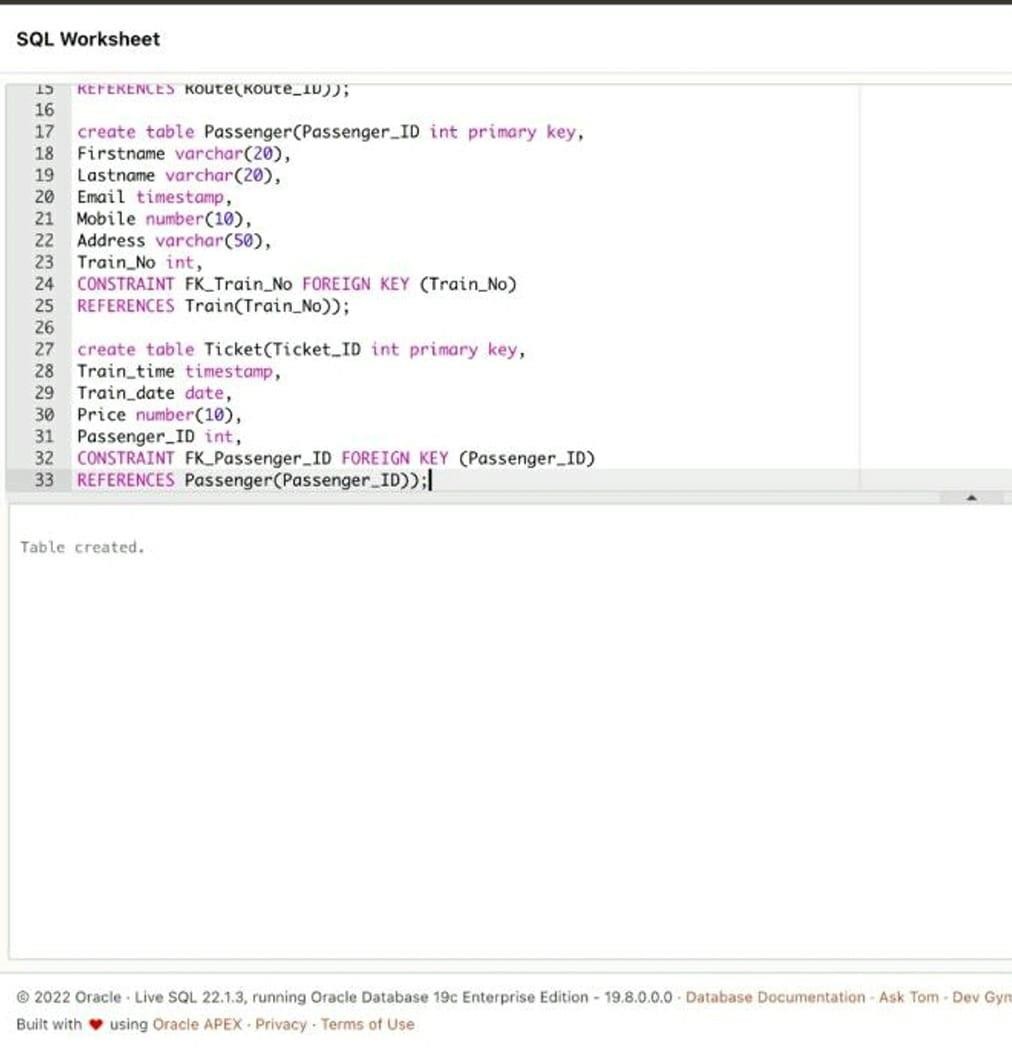
INSERT INTO Ticket VALUES(1817642634,'9-Jun-2022 10:30:00pm','09-Jun-2022',500, 1); INSERT INTO Ticket VALUES(2961542333,'9-Jun-2022 10:30:00pm','09-Jun-2022',1250, 492);

INSERT INTO Ticket VALUES(1613742677,'30-May-2022 12:30:30pm','30-May-2022',400, 317);

INSERT INTO Ticket VALUES(1939542312,'18-Jan-2022 12:35:00am','18-Jan-2022',15000, 44);

# SQL Output Screenshots





1. INSERT INTO Route VALUES(l,
2. INSERT INTO Route VALUESC2,
3. INSERT INTO Route VALUESC3,
4. INSERT INTO Route VALUES(4,
5. INSERT INTO Route VALUESCS,
6. Select \* from Route:I

De1ht ' , 2, Patta1a , 3} ; Mumbat , 1, Ko1kata' , 6J; Chennai , 4, Ahendabad , 4g ; Shtulo , 7, Bhopal , 5} ; 'Goo', 3, 'Bengluru', 8);

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| R0UTE\_ID | S0URCE\_CITY | S0URCE\_PLATF0RH | DESTINATI0N\_€ITY | DESTINATI0N\_PLATF0RH |
| 1 | De\.h1 |  | Pat1a\.a | 3 |
| 2 | Numba1 |  | Kolkata | 6 |
| 3 | Chenna 1 | 4 | Ahe¥dabad | 4 |
| 4 | Sh1mta | 7 | Bhopa \. | 5 |
| 5  Download | Goa  CSV | 3 | Beng tu ru |  |

5 rows selected.

4Z INSERT INTO Troin VALUES(123,'PTL Express','10-Juu Z0Z2 07:20:00om','9-1un-202Z 10:30:00pm',1000,843,1);

43 INSERT INTO Troin VALUES(666,'BLR Shotobdi’,'l9-Moy-2022 08:05:00pm',’18-JOn2022 12:35:00om',500,321,S);

44 INSERT INTO Tnoin VALUES(341,'Beugol EXP’,’2Z-Hoy-Z02Z 11:30:00om','21-Moy-Z022 02:30:30pm',S0e,ZS4,2);

45 INSERT INTO Troin VALUES(101,'HP EXP','26 Moy—2022 11:30:00pm',’Z6—Moy-Z0ZZ 02:30:30pm',1000,754,4);

1. INSERT INTO Train VALUES{Z55, ' GUJ Express’ , ' 31-Hay-Z0ZZ 09 : 30: 06om’ , ' 30-boy- ZOZZ 12: 3e : 30pm' , 500, Z54,33 ;
2. Select ” froa Tra\*\* :l

ARItZVAL\_TEHE Y0YAL\_SEAtS At/AELABLE\_SEATS R0UTE\_1D

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 123 | PTL Expres s | 18-JIPI-22 87.28.08.808888 AH | 09-JUN-22 16. 30.88.888880 PN | 1088 | B43 | 1 |
| 666 | BLR Shatabd i | 19JAY-22 BB.B5.6B.B608BB FBI | L8-3AN-2Z 1Z.35.BB. 6BBBg0 AN | SBB | 321 |  |
| 341 | Bengal EXP | 22—NAY-22 11.38.66.0e0688 IN | 21—NAY-2Z 82. 36. 36. 86086B PN | 508 | 254 |  |
| I0l | TR EXP |  |  |  | 754 | 4 |
| 255 | GU3 Expres s | 31—NAY-22 B9.3B.08. 960988 IN | 36—NAY-22 12.36.36.B96896 PN | 568 | 254 |  |

Ba\an toad CSV

5 rows sete ct ed .

1. INSERT INTO Possengen VALUES(124, 'Ishon', 'Join’, 'ijoin0gmoil.com', 9899898812, 'Model Town, Ludhiono', 123J;
2. INSERT INTO Possengen VALUESC73, ’Rgj', '(upto', 'n9uptaen„tl.com', 9873654812, 'Moll rood, Shimlo', 101J;
3. INSERT INTO Possengen VALUESC492, 'Rohit', 'Thopor’, 'rthOpon0gmoil.com', 8899898833, 'Ashok Vihon, Delhi', 123J;
4. INSERT INT0 Pos senger VALUES{44, ' Riya' , ’Rompot ’ , ’ rrompat9gmoi I . com’ , 7645898812, ’ Beach road , Gov ' , 6663 ;
5. INSERT INTO Possengen VALUESC317, 'Ishoni', 'ShOrmO', 'ishormo0gmOil.com', 6439894313, 'Chennai', 255J;
6. Select from Passenger;

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| PASSEHGER\_ID | FIRSTHAHE | LASTNAf1E | EnAIL | FI0BILE ADDRESS | | |
|  | Is han | 3a in | ij a inqgnaiI. com | 9899898812 | Nodet Town, Ludhiana | 123 |
| 73 | Raj | Gupta | rguptaQgmail.com | 9873654812 | Mall road, Shimld | 101 |
| 492 | Rohit | Thapa r | rthapar0gmail.coil | 8B99898833 | As hok Viha r, Delhi | 123 |
| 44 | Riya | Ranpa I | rrampa tqgmai\. coa | 7645898812 | Beach road, Goa | 666 |
| 317 | Is hani | Sharna | ssharna0gmall.*com* | 6439894313 | Chennai | 255 |

Down toad CSV

5 rows selected .

57

58 INSERT INT0 Ttcket VALUES{2819542664, ’ Z6—May— Z02Z 02 : 30 : 30pm’ , ’ 26—May— Z022 ’ , 1500, 73} ;

59 INSERT INTO Ticket VALUES(1817642634,'9-Jun-202Z 10:30:00pm','09-Jun-Z0Z2',500, IQ;

60 INSERT INTO Ticket VALUES(2961542333,'9-Jun-202Z 10:30:00pm','09-Jun-Z0Z2',1250, 49Z);

61 INSERT INTO Ticket VALUES(16I3742677,'30-Moy-Z0ZZ 12:30:30pm','30-Moy-Z022',400, 317);

62 INSERT INTO Ticket VALUES(1939542312,'18-Jon-Z0ZZ 12:35:00om','18-Jon-Z022',15000, 44J;

63 Select \* from Ticket;

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| TICKET\_ID | TRAIN\_TINE | TRAIN\_DATE | PRICE | PASSENGER\_ID |
| 2961542333 | 09—3UN—22 10.36. 00. 0000e0 PN | 09—3UN—22 | 1250 | 492 |
| 1613742677 | 30—NAY—22 12.36.30. 0000e0 PN | 30—HAY—22 | 460 | 317 |
| 1939542312 | 18—3AN—22 12.35. 66. 0000e0 AH | 18—3AN—22 | 15060 | 44 |
| 1817642634 | 09—3UN—22 10.36. 66. 0000e0 PN | 09—3UN—22 | 560 | 1 |
| 2819542664 | 26—NAY—22 e2.36.36. 0000e0 PN | 26—NAY—22 | 1506 | 73 |

Down toad

5 rows seI ec t ed.

# PL/SQL Codes and Screenshots

## To display details of all passengers

Declare

P\_Firstname Passenger.Firstname%type; P\_Lastname Passenger.Lastname%type; Mobile Passenger.Mobile%type; Address Passenger.Address%type;

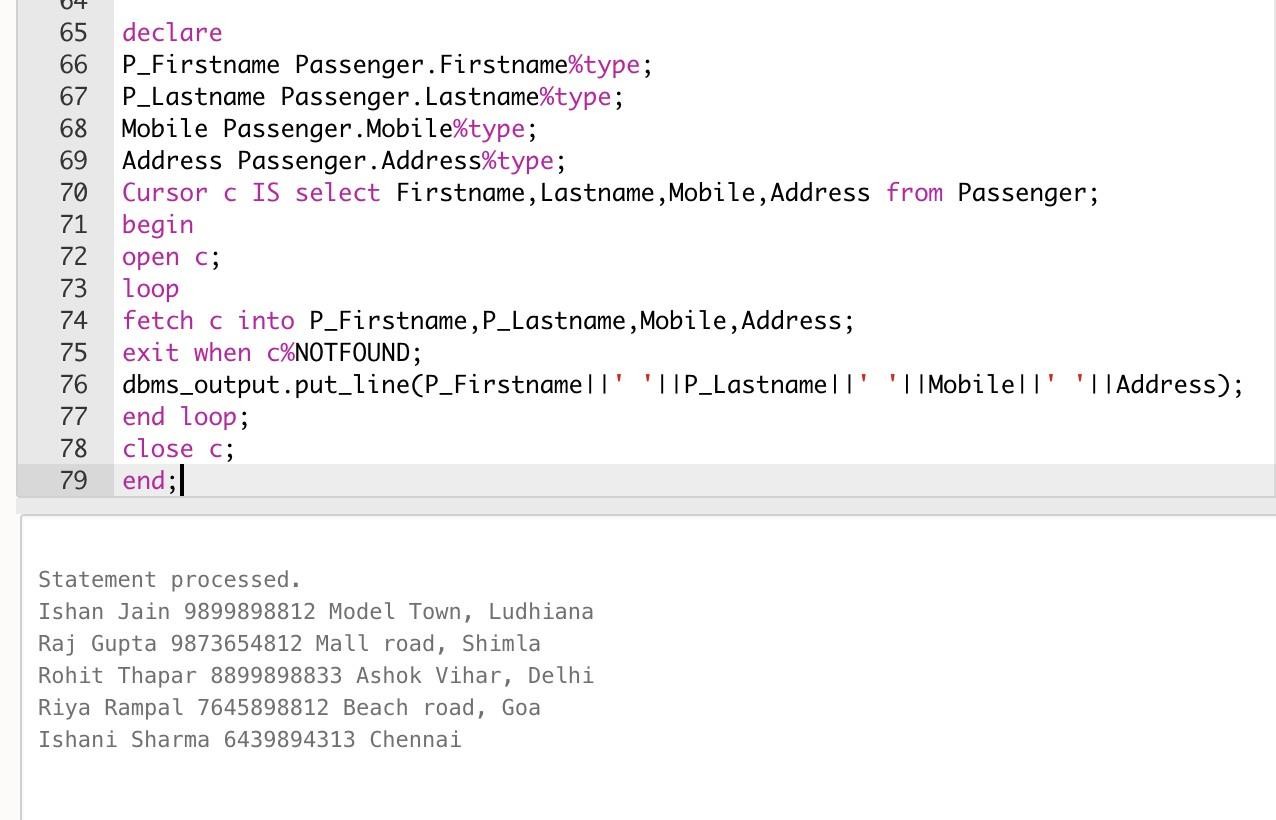
Cursor c IS select Firstname,Lastname,Mobile,Address from Passenger;

Begin open c; loop

fetch c into P\_Firstname,P\_Lastname,Mobile,Address; exit when c%NOTFOUND;

dbms\_output.put\_line(P\_Firstname||' '||P\_Lastname||' '||Mobile||' '||Address); end loop;

close c; end;



## To display the details of passenger whose has taken highest fair ticket

declare

P\_Firstname Passenger.Firstname%type; P\_Lastname Passenger.Lastname%type; Mobile Passenger.Mobile%type; Address Passenger.Address%type;

CustomerId Passenger.Passenger\_ID%type;

Cursor c IS select P.Firstname,P.Lastname,P.Mobile,P.Address,T.Passenger\_ID from Passenger P,Ticket T where

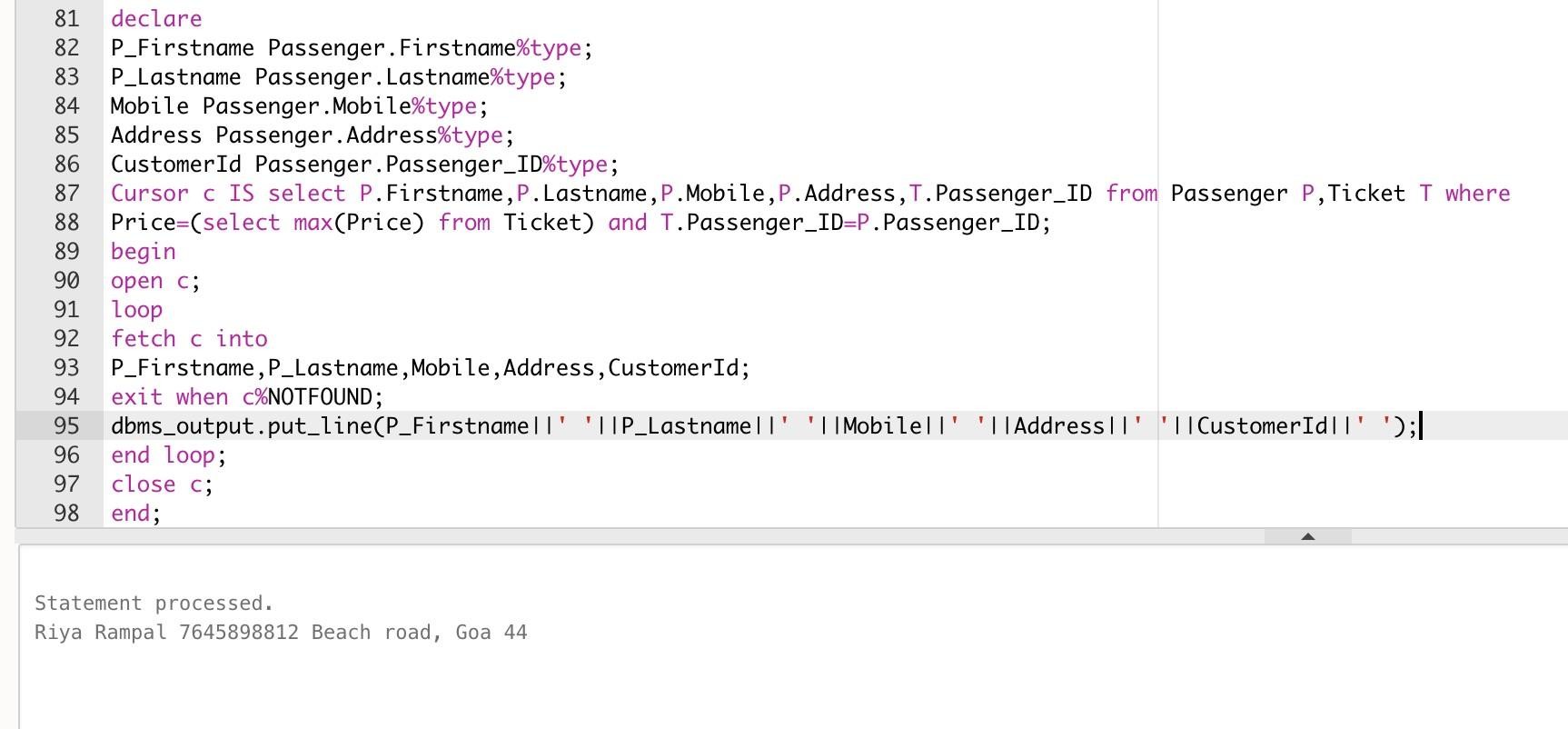
Price=(select max(Price) from Ticket) and T.Passenger\_ID=P.Passenger\_ID; begin

open c; loop

fetch c into P\_Firstname,P\_Lastname,Mobile,Address,CustomerId; exit when c%NOTFOUND;

dbms\_output.put\_line(P\_Firstname||' '||P\_Lastname||' '||Mobile||' '||Address||' '||CustomerId||' ');

end loop; close c; end;



## To display the details of passenger whose train is in evening declare

declare

P\_Firstname Passenger.Firstname%type; P\_Lastname Passenger.Lastname%type; Mobile Passenger.Mobile%type; Address Passenger.Address%type; Train\_No Passenger.Train\_No%type;

Cursor c IS select P.Firstname,P.Lastname,P.Mobile,P.Address,T.Train\_No from Passenger P,Train T where

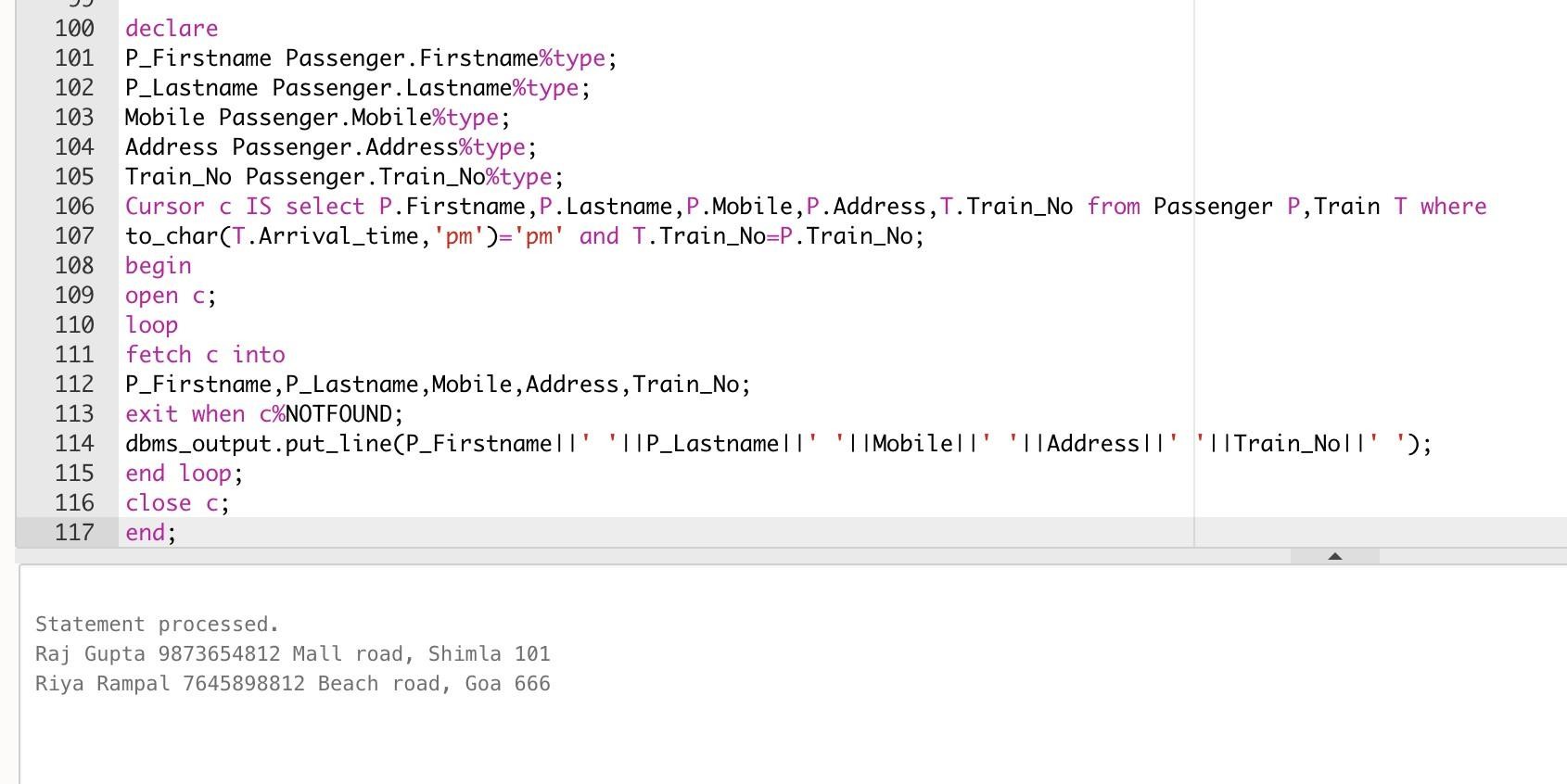
to\_char(T.Arrival\_time,'pm')='pm' and T.Train\_No=P.Train\_No; begin

open c; loop

fetch c into P\_Firstname,P\_Lastname,Mobile,Address,Train\_No; exit when c%NOTFOUND;

dbms\_output.put\_line(P\_Firstname||' '||P\_Lastname||' '||Mobile||' '||Address||' '||Train\_No||' ');

end loop; close c; end;



## Exception handling

declare

P\_Email Passenger.Email%type; P\_Passenger\_ID Passenger.Passenger\_ID%type; e\_invalid\_ID EXCEPTION;

begin

update Passenger

set Email = 'random@gmail.com' where P\_Passenger\_ID = 2;

if SQL%NOTFOUND then raise e\_invalid\_ID;

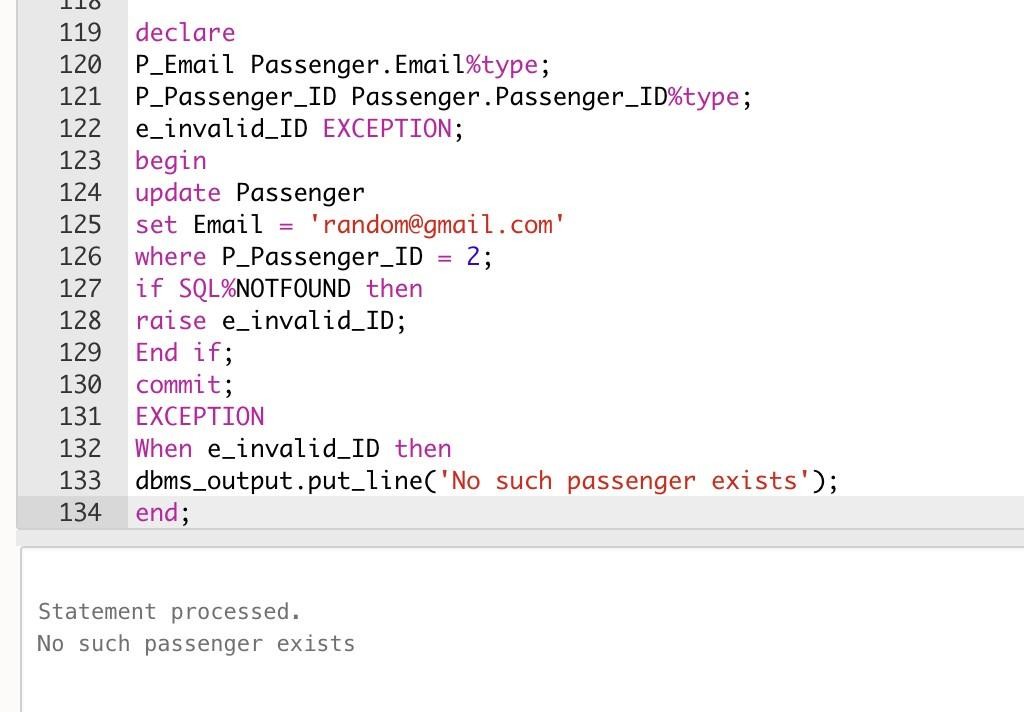
End if; commit; EXCEPTION

When no\_data\_found then dbms\_output.put\_line('No such record');

When too\_many\_rown then dbms\_output.put\_line('More than one record found');

When e\_invalid\_ID then dbms\_output.put\_line('No such passenger exists');

When others then dbms\_output.put\_line('Some error found'); end;



## Procedure to add route

create or replace procedure add\_route (R\_ID in Route.Route\_ID%type, S\_city in Route.Source\_city%type,

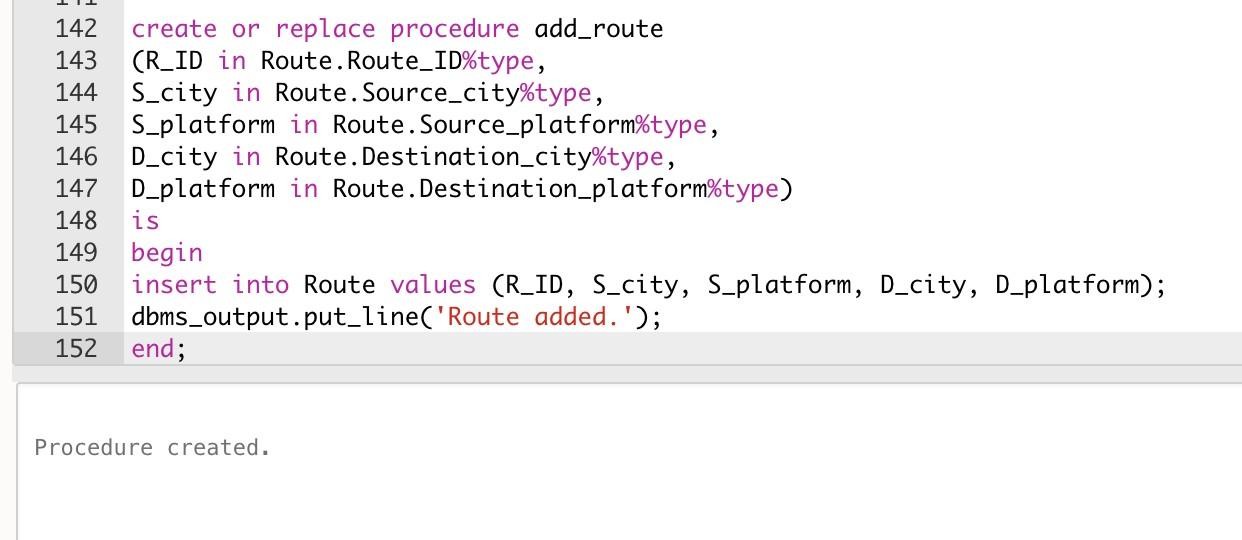
S\_platform in Route.Source\_platform%type, D\_city in Route.Destination\_city%type, D\_platform in Route.Destination\_platform%type) is

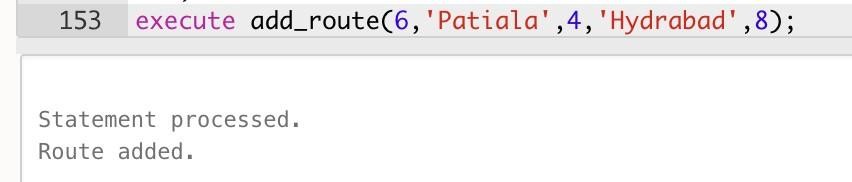
begin

insert into Route values (R\_ID, S\_city, S\_platform, D\_city, D\_platform); dbms\_output.put\_line('Route added.');

end;

execute add\_route(6,'Patiala',4,'Hydrabad',8); select \* from route;





1. creote *or* replace procedure odd\_route
2. (R\_ID in Route.Route\_ID%type,
3. S\_city tn Route.Source\_ctty%type,
4. S\_plotform in Route.Source\_plotform%type,
5. D\_city tn Route.Desttnotton\_ctty%type,
6. D\_plotform in Route.Desttnotion\_plotform%type)
7. IS
8. begin
9. insert tnto Route vogues (R\_ID, S\_city, S\_plotform, D\_city, D\_plotform);
10. dbms\_output.put\_line('Route Odded.');
11. end ;
12. execut.e odd\_route{6, ’ PatI aI a ' , 4, ' Hyd rabad ’ , 8} ;
13. set eel. \* from route :I

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| R0UTE\_ |  | | | |
| 6 | Patiata | 4 | Hyd rabad |  |
| 1 | Delhi |  | Patiata | 3 |
|  | Mumbai | 1 | No I kat a |  |
| 3 | Chennai | 4 | Ahendaba d | 4 |
| 4 | Shimla  Goa | 3 | Bhopal  Beng I u ru | 5 |

