**Roadway Travels System**

**Requirements Analysis**

**Roadway Travels:**

Roadway travels is in business since 1997 with several buses connecting different places in India

The company wants to computerize its operations in the following areas:

1. Reservations and Ticketing
2. Cancellations

**Reservations & Cancellation:**

Reservations are directly handled by booking office. Reservations can be made 30 days in advance and tickets issued to passenger. One passenger/ person can book many tickets (to his/her family).Cancellations are also directly handed at the booking office.

In the process of Computerization of Roadway Travels you have to design and develop a Database which consists the data of Buses, Passengers, Tickets and Reservation and cancellation details. You should also develop query‘s using SQL to retrieve the data from the database.

**Following steps are involved in the process:**

1. Analyzing the problem and identifying the Entities and Relationships

2. E-R Model

3. Normalized Relational Model

### 4. Creating the database

5. Querying.

6. Triggers and Stored procedures on the tables.

**1)E-R Model:**

Analyze the problem carefully and come up with the entities in it. Identify what data has to be persisted in the database. This contains the entities, attributes etc. In this we will analyze different types of entities with attributes of “Roadways Travels”.

**Entity:**

An Entity is an object or concept about which you want to store information.

**Relationship:**

A relationship is an association between several entities.

**Attributes:** An object is characterized by its properties or attributes. In relational database systems attributes correspond to fields.

**The Road Way Travels Consists Of The Following Entities:**

* BUS
* Ticket
* Passenger
* Reservation
* Cancellation/modification

**These Entities have following attributes**

**Bus:**

* Bus\_id
* Bus\_name
* Bus\_type
* Bus\_totalseats

**Ticket:**

* Ticket\_booking
* Ticket\_datejourney
* Ticket\_to
* Ticket\_from
* Ticket\_id
* Ticket\_no of tickets

**Passenger:**

* Pid
* Pname
* Pgender
* Page
* precancel

**VIVA QUESTIONS**

1. Explain entity, relation and attributes?
2. What is the difference between weak entity and strong entity?
3. What are the different types of attributes?
4. Explain difference between multi valued and single valued attributes?
5. What is the difference between entity and entity set?

4. Create the table using following attributes **BUS** **(**BUSNO: VARCHAR2 (10): **PK**, SOURCE: VARCHAR2 (50), DESTINATION: VARCHAR2 (50)**)**

**Creating table**

**Syntax**

Mysql>Create table <table name> (col1 datatype,col2 datatype,col3 datatype);

**Query**

Mysql>Create table BUS (BUSNO VARCHAR2(10) Primary Key, SOURCE VARCHAR2 (50), DESTINATION VARCHAR2 (50));

**Describing table**

**Query**

Mysql>desc bus;

**Output**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Table** | **Column** | **Data Type** | **Length** | **Precision** | **Scale** | **Primary Key** | **Nullable** | **Default** | **Comment** |
| [BUS](javascript:ret_Column('TIRU.BUS');) | [BUSNO](javascript:ret_Column('BUSNO');) | Varchar2 | 10 | - | - | 1 | - | - | - |
|  | [SOURCE](javascript:ret_Column('SOURCE');) | Varchar2 | 50 | - | - | - | nullable | - | - |
|  | [DESTINATION](javascript:ret_Column('DESTINATION');) | Varchar2 | 50 | - | - | - | nullable | - | - |
| |  |  |  |  |  | | --- | --- | --- | --- | --- | |  |  |  |  |  | | | | | | | | | | |

**Inserting records into “Bus” table**

**Syntax**

Mysql>Insert into <table name> values (val 1,val2,val3)

**Query**

Mysql>insert into bus values(1234,'hyderabad',’tirupathi’);

Mysql>insert into bus values(2345,'hyderabad',’tirupathi’);

Mysql>insert into bus values(23,'hyderabad',’kolkata’);

Mysql>insert into bus values(45,' tirupathi ',’banglore’);

Mysql>insert into bus values(34,'hyderabad',’chennai’);

**Display table**

**Syntax**

Mysql>Select <select list> from <table name>

**Query**

Mysql>Select \* from bus;

**Output**

|  |  |  |
| --- | --- | --- |
| **BUSNO** | **SOURCE** | **DESTINATION** |
| 1234 | hyderabad | tirupathi |
| 2345 | hyderabad | tirupathi |
| 23 | hyderabad | kolkata |
| 45 | tirupathi | banglore |
| 34 | hyderabad | chennai |
|  |  |  |

Create the table using following attributesPASSENGER (PPNO: VARCHAR2 (15): PK, NAME: VARCHAR2 (15), AGE: INT (4), SEX: CHAR (10): MALE/FEMALE, ADDRESS: VARCHAR2 (50))

**Creating table**

**Syntax**

Mysql>Create table <table name> (col1 datatype,col2 datatype,col3 datatype);

**Query**

Mysql>CREATE TABLE PASSENGER1 (PPNO VARCHAR2 (15) PRIMARY KEY, NAME VARCHAR2 (15), AGE NUMBER (4), SEX CHAR (10), ADDRESS VARCHAR2 (50));

**Describing table**

**Query**

Mysql>Desc PASSENGER;

**Output**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Table** | **Column** | **Data Type** | **Length** | **Precision** | **Scale** | **Primary Key** | **Nullable** | **Default** | | **Comment** |
| [PASSENGER](javascript:ret_Column('TIRU.PASSENGER');) | [PPNO](javascript:ret_Column('PPNO');) | Varchar2 | 15 | - | - | 1 | - | - | | - |
|  | [NAME](javascript:ret_Column('NAME');) | Varchar2 | 15 | - | - | - | nullable | - | | - |
|  | [AGE](javascript:ret_Column('AGE');) | Number | - | 4 | 0 | - | nullable | - | | - |
|  | [SEX](javascript:ret_Column('SEX');) | Char | 10 | - | - | - | nullable | - | | - |
|  | [ADDRESS](javascript:ret_Column('ADDRESS');) | Varchar2 | 50 | - | - | - | nullable | - | | - |
| |  |  |  |  |  | | --- | --- | --- | --- | --- | |  |  | 1 - 5 |  |  | | | | | | | | | |

**Inserting records into “PASSENGER” table**

**Syntax**

Mysql>Insert into <table name> values (val 1,val2,val3);

**Query**

Mysql>insert into PASSENGER1 values(1,'TIRUMALAY',19,'MALE','AMBERPET');

Mysql>insert into PASSENGER1 values(2,'SUPRIYA',20,'FEMALE','B.B NAGAR');

Mysql>insert into PASSENGER1 values(3,'AMULYA',20,'FEMALE','ECIL');

Mysql>insert into PASSENGER1 values(4,'NAGARAJU',20,'MALE','NAGARAM');

Mysql>insert into PASSENGER1 values(5,'AVS.RAVI',20,'MALE','B.B NAGAR');

**Display table**

**Syntax**

Mysql>Select <select list> from <table name>;

**Query**

Mysql>Select \* from PASSENGER;

**Output**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **PPNO** | **NAME** | **AGE** | **SEX** | **ADDRESS** |
| 1 | TIRUMALAY | 19 | MALE | AMBERPET |
| 2 | SUPRIYA | 20 | FEMALE | B.B NAGAR |
| 3 | AMULYA | 20 | FEMALE | ECIL |
| 4 | NAGARAJU | 20 | MALE | NAGARAM |
| 5 | AVS.RAVI | 20 | MALE | B.B NAGAR |

Create the table using following attributes **TICKET** **(**TICKET\_NO: NUMERIC (9): **PK**, JOURNEY\_DATE: DATE, AGE: INT (4), SEX: CHAR (10): MALE/FEMALE, SOURCE: VARCHAR2 (50), DEP\_TIME: VARCHAR2 (50)**)**

**Creating table**

**Syntax**

Mysql>Create table <table name> (col1 datatype,col2 datatype,col3 datatype)

**Query**

Mysql>CREATE TABLE TICKET **(**TICKET\_NO NUMBER (9) PRIMARY KEY , JOURNEY\_DATE DATE, AGE NUMBER (4), SEX CHAR (10), SOURCE VARCHAR2 (50), DEP\_TIME VARCHAR2 (50)**)**

**Describing table**

**Query**

Mysql>Desc TICKET

**Output**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Table** | **Column** | **Data Type** | **Length** | **Precision** | **Scale** | **Primary Key** | **Nullable** | **Default** | **Comment** |
| [TICKET](javascript:ret_Column('TIRU.TICKET');) | [TICKET\_NO](javascript:ret_Column('TICKET_NO');) | Number | - | 9 | 0 | 1 | - | - | - |
|  | [JOURNEY\_DATE](javascript:ret_Column('JOURNEY_DATE');) | Date | 7 | - | - | - | nullable | - | - |
|  | [AGE](javascript:ret_Column('AGE');) | Number | - | 4 | 0 | - | nullable | - | - |
|  | [SEX](javascript:ret_Column('SEX');) | Char | 10 | - | - | - | nullable | - | - |
|  | [SOURCE](javascript:ret_Column('SOURCE');) | Varchar2 | 50 | - | - | - | nullable | - | - |
|  | [DEP\_TIME](javascript:ret_Column('DEP_TIME');) | Varchar2 | 50 | - | - | - | nullable | - | - |

**Inserting records into “TICKET” table**

**Syntax**

Mysql>Insert into <table name> values (val1,val2,val3);

**Query**

Mysql>insert into TICKET values(1203,'10/FEB/11',19,'MALE','HYDERABAD','10.30 AM');

Mysql>insert into TICKET values(1213,'10/FEB/11',19,'FEMALE','HYDERABAD','10.30 AM');

Mysql>insert into TICKET values(1201,'13/FEB/11',20,'FEMALE','HYDERABAD','11.30 AM');

Mysql>insert into TICKET values(1202,'14/FEB/11',20,'MALE','TIRUPATHI','11.00 AM');

Mysql>insert into TICKET values(1205,'14/FEB/11',20,'MALE','HYDERABAD','11.00 AM');

**Display table**

**Syntax**

Mysql>select <select list> from <table name>;

**Query**

Mysql>select \* from TICKET;

**Output**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **TICKET\_NO** | **JOURNEY\_DATE** | **AGE** | **SEX** | **SOURCE** | **DEP\_TIME** |
| 1203 | 10-FEB-11 | 19 | MALE | HYDERABAD | 10.30 AM |
| 1213 | 10-FEB-11 | 19 | FEMALE | HYDERABAD | 10.30 AM |
| 1201 | 13-FEB-11 | 20 | FEMALE | HYDERABAD | 11.30 AM |
| 1202 | 14-FEB-11 | 20 | MALE | TIRUPATHI | 11.00 AM |
| 1205 | 14-FEB-11 | 20 | MALE | HYDERABAD | 11.00 AM |

Create the table using following attributes **PASSENGER\_TICKETS** **(**PPNO: VARCHAR2 (15): **PK**, TICKET\_NO: NUMERIC (9)**)**

**Creating table**

**Syntax**

Mysql>Create table <table name> (col1 datatype,col2 datatype,col3 datatype);

**Query**

Mysql>CREATE TABLE **PASSENGER\_TICKETS** **(**PPNO VARCHAR2 (15) PRIMARY KEY, TICKET\_NO NUMBER (9)**);**

**Describing table**

**Query**

Mysql>Desc PASSENGER\_TICKETS;

**Output:**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Table** | **Column** | **Data Type** | **Length** | **Precision** | **Scale** | **Primary Key** | **Nullable** | **Default** | **Comment** |
| [PASSENGER\_TICKETS](javascript:ret_Column('TIRU.PASSENGER_TICKETS');) | [PPNO](javascript:ret_Column('PPNO');) | Varchar2 | 15 | - | - | 1 | - | - | - |
|  | [TICKET\_NO](javascript:ret_Column('TICKET_NO');) | Number | - | 9 | 0 | - | nullable | - | - |

**Inserting records into “PASSENGER\_TICKETS” table**

**Syntax**

Mysql>Insert into <table name> values (val 1,val2,val3);

**Query**

Mysql>insert into PASSENGER\_TICKETS values(1,1203);

Mysql>insert into PASSENGER\_TICKETS values(2,1213);

Mysql>insert into PASSENGER\_TICKETS values(3,1201);

Mysql>insert into PASSENGER\_TICKETS values(4,1202);

Mysql>insert into PASSENGER\_TICKETS values(5,1205);

**Display table**

**Syntax**

Mysql>Select <select list> from <table name>;

**Query**

Mysql>select \* from TICKET;

|  |  |
| --- | --- |
| **PPNO** | **TICKET\_NO** |
| 1 | 1203 |
| 2 | 1213 |
| 3 | 1201 |
| 4 | 1202 |
| 5 | 1205 |

**Output**

Create the table using following attributesRESERVATION **(**PNR\_NO: NUMERIC (9): FK, JOURNEY\_DATE: DATE, NO\_OF\_SEATS: INT (8), ADDRESS: VARCHAR2 (50), CONTACT\_NO: NUMERIC (10), STATUS: CHAR (3): YES/NO**)**

FOREIGN KEY(PNR\_NO ) REFERENCES PASSENGER\_TICKECTS(PPNO);

**Creating table**

**Syntax**

Create table <table name> (col1 datatype,col2 datatype,col3 datatype)

**Query**

Mysql>create table reservation (pnr\_no varchar2(15),journey\_date date,no\_of\_seats number(8),address varchar2(50),contact\_no number(10),status char(3),foreign key(pnr\_no)references passenger\_tickets(ppno));

**Describing table :Query**

Mysql>Desc reservation**;**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Table** | **Column** | **Data Type** | **Length** | **Precision** | **Scale** | **Primary Key** | **Nullable** | **Default** | **Comment** |
| [RESERVATION](javascript:ret_Column('TIRU.RESERVATION');) | [PNR\_NO](javascript:ret_Column('PNR_NO');) | Varchar2 | 15 | - | - | - | nullable | - | - |
|  | [JOURNEY\_DATE](javascript:ret_Column('JOURNEY_DATE');) | Date | 7 | - | - | - | nullable | - | - |
|  | [NO\_OF\_SEATS](javascript:ret_Column('NO_OF_SEATS');) | Number | - | 8 | 0 | - | nullable | - | - |
|  | [ADDRESS](javascript:ret_Column('ADDRESS');) | Varchar2 | 50 | - | - | - | nullable | - | - |
|  | [CONTACT\_NO](javascript:ret_Column('CONTACT_NO');) | Number | - | 10 | 0 | - | nullable | - | - |
|  | [STATUS](javascript:ret_Column('STATUS');) | Char | 3 | - | - | - | nullable |  |  |

**Output**

**Inserting records into “reservation” table**

**Syntax**

Insert into <table name> values (val 1,val2,val3);

**Query**

Mysql>insert into reservation values(1,'10/feb/23',5,'amberpet','7416944004','yes');

Mysql>insert into reservation values(1,'11/feb/23',8,'amberpet','7416944004','yes');

Mysql>insert into reservation values(2,'11/feb/23',8,'b.b nagar','7207204221','yes');

Mysql>insert into reservation values(2,'14/feb/23',2,'b.b nagar','7207204221','yes');

Mysql>insert into reservation values(3,'14/feb/23',3,'ecil','00000000','yes');

Mysql>insert into reservation values(4,'14/feb/23',4,'nagaram','9700135300','yes');

Mysql>insert into reservation values(5,'16/feb/23',1,'b.b nagar','8143528258','yes');

Mysql>insert into reservation values(5,'15/feb/23',7,'b.b nagar','8143528258','yes');

**Display table**

**Syntax**

Select <select list> from <table name>;

**Query**

Mysql>select \* from reservation;

**Output**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **PNR\_NO** | **JOURNEY\_DATE** | **NO\_OF\_SEATS** | **ADDRESS** | **CONTACT\_NO** | **STATUS** |
| 1 | 10-FEB-11 | 5 | amberpet | 7416944004 | yes |
| 1 | 11-FEB-11 | 8 | amberpet | 7416944004 | yes |
| 2 | 11-FEB-11 | 8 | b.b nagar | 7207204221 | yes |
| 2 | 14-FEB-11 | 2 | b.b nagar | 7207204221 | yes |
| 3 | 14-FEB-11 | 3 | ecil | 0 | yes |
| 4 | 14-FEB-11 | 4 | nagaram | 9700135300 | yes |
| 5 | 16-FEB-11 | 1 | b.b nagar | 8143528258 | yes |
| 5 | 15-FEB-11 | 7 | b.b nagar | 8143528258 | yes |

Create the table using following attributes **CANCELLATION** **(**PNR\_NO: NUMERIC (9): **FK**, JOURNEY\_DATE: DATE, NO\_OF\_SEATS: INT (8), ADDRESS: VARCHAR2 (50), CONTACT\_NO: NUMERIC (9), STATUS: CHAR (3): YES/NO**)**

FOREIGN KEY(PNR\_NO ) REFERENCES PASSENGER\_TICKECTS(PPNO);

**Creating table**

**Syntax**

Create table <table name> (col1 datatype,col2 datatype,col3 datatype);

**Query**

Mysql>create table cancellation (pnr\_no varchar2(15),journey\_date date,no\_of\_seats number(8),address varchar2(50),contact\_no number(10),status char(3),foreign key(pnr\_no)references passenger\_tickets(ppno));

**Describing table**

**Query**

Mysql>Desc reservation **;**

**Output**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Table** | **Column** | **Data Type** | **Length** | **Precision** | **Scale** | **Primary Key** | **Nullable** | **Default** | **Comment** |
| [CANCELLATION](javascript:ret_Column('TIRU.CANCELLATION');) | [PNR\_NO](javascript:ret_Column('PNR_NO');) | Varchar2 | 15 | - | - | - | nullable | - | - |
|  | [JOURNEY\_DATE](javascript:ret_Column('JOURNEY_DATE');) | Date | 7 | - | - | - | nullable | - | - |
|  | [NO\_OF\_SEATS](javascript:ret_Column('NO_OF_SEATS');) | Number | - | 8 | 0 | - | nullable | - | - |
|  | [ADDRESS](javascript:ret_Column('ADDRESS');) | Varchar2 | 50 | - | - | - | nullable | - | - |
|  | [CONTACT\_NO](javascript:ret_Column('CONTACT_NO');) | Number | - | 10 | 0 | - | nullable | - | - |
|  | [STATUS](javascript:ret_Column('STATUS');) | Char | 3 | - | - | - | nullable | - | - |

**Inserting records into “CANCELLATION” table**

**Syntax**

Insert into <table name> values (val 1,val2,val3)

**Query**

Mysql>insert into cancellation values(1,'10/feb/23',5,'amberpet','7416944004','yes');

Mysql>insert into cancellation values(1,'11/feb/23',8,'amberpet','7416944004','yes');

Mysql>insert into cancellation values(2,'11/feb/23',8,'b.b nagar','7207204221','yes');

Mysql>insert into cancellation values(2,'14/feb/23',2,'b.b nagar','7207204221','yes');

Mysql>insert into cancellation values(3,'14/feb/23',3,'ecil','00000000','yes');

Mysql>insert into cancellation values(4,'14/feb/23',4,'nagaram','9700135300','yes');

Mysql>insert into cancellation values(5,'16/feb/23',1,'b.b nagar','8143528258','yes');

Mysql>insert into cancellation values(5,'15/feb/23',7,'b.b nagar','8143528258','yes');

**Display table**

**Syntax**

Select <select list> from <table name>

**Query**

Mysql>select \* from cancellation;

**Output:**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **PNR\_NO** | **JOURNEY\_DATE** | **NO\_OF\_SEATS** | **ADDRESS** | **CONTACT\_NO** | **STATUS** |
| 1 | 10-FEB-11 | 5 | amberpet | 7416944004 | yes |
| 1 | 11-FEB-11 | 8 | amberpet | 7416944004 | yes |
| 2 | 11-FEB-11 | 8 | b.b nagar | 7207204221 | yes |
| 2 | 14-FEB-11 | 2 | b.b nagar | 7207204221 | yes |
| 3 | 14-FEB-11 | 3 | ecil | 0 | yes |
| 4 | 14-FEB-11 | 4 | nagaram | 9700135300 | yes |
| 5 | 16-FEB-11 | 1 | b.b nagar | 8143528258 | yes |
| 5 | 15-FEB-11 | 7 | b.b nagar | 8143528258 | yes |

1)Display unique PNR\_NO of all passengers.

**Query**

Mysql>select distinct(pnr\_no) from reservation;

|  |
| --- |
| **PNR\_NO** |
| 1 |
| 3 |
| 5 |
| 2 |
| 4 |

**Output**

2) Display all the names of male passengers.

**Query**

Mysql>select name from passenger where sex='MALE'

|  |
| --- |
| **NAME** |
| TIRUMALAY |
| NAGARAJU |
| AVS.RAVI |

**Output**

3) Display the ticket numbers and names of all the passengers.

**Query**

Mysql>select p.name,t.ticket\_no from passenger1 p,passenger\_tickets t where t.ppno=p.ppno

**Output**

|  |  |
| --- | --- |
| **NAME** | **TICKET\_NO** |
| TIRUMALAY | 1203 |
| SUPRIYA | 1213 |
| AMULYA | 1201 |
| NAGARAJU | 1202 |
| AVS.RAVI | 1205 |

4)Find the ticket numbers of the passengers whose name start with ‘t’ and ends with ‘y’.

**Query**

Mysql>select t.ticket\_no from passenger1 p,passenger\_tickets t where p.name like 'T%Y'and t.ppno=p.ppno;

**Output**

|  |
| --- |
| **TICKET\_NO** |
| 1203 |

5)Find the names of passengers whose age is between 15 and 20.

**Query**

Mysql>select name from passenger1 where age between 15 and 20

**Output**

|  |
| --- |
| **NAME** |
| TIRUMALAY |
| SUPRIYA |
| AMULYA |
| NAGARAJU |
| AVS.RAVI |

6)Display all the passengers names beginning with ‘A’.

**Query**

Mysql>select name from passenger1 where name like 'A%';

**Output**

|  |
| --- |
| **NAME** |
| AMULYA |
| AVS.RAVI |

7)Display the sorted list of passengers names.

**Query**

Mysql>select name from passenger1 order by name;

**Output**

|  |
| --- |
| **NAME** |
| AMULYA |
| AVS.RAVI |
| NAGARAJU |
| SUPRIYA |
| TIRUMALAY |

Write a query to display the information present in the PASSENGER and CANCELLATION tables. (Use UNION Operator).

**Query**

Mysql> select \* from passenger1 p,cancellation c where p.ppno=c.pnr\_no

union

select \* from passenger1 p1,cancellation c1 where p1.ppno=c1.pnr\_no;

**Output**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **PPNO** | **NAME** | **AGE** | **SEX** | **ADDRESS** | **PNR\_NO** | **JOURNEY\_DATE** | **NO\_OF\_SEATS** | **ADDRESS** | **CONTACT\_NO** | **STATUS** |
| 1 | TIRUMALAY | 19 | MALE | AMBERPET | 1 | 10-FEB-11 | 5 | Amberpet | 7416944004 | yes |
| 1 | TIRUMALAY | 19 | MALE | AMBERPET | 1 | 11-FEB-11 | 8 | Amberpet | 7416944004 | yes |
| 2 | SUPRIYA | 20 | FEMALE | B.B NAGAR | 2 | 11-FEB-11 | 8 | b.b nagar | 7207204221 | yes |
| 2 | SUPRIYA | 20 | FEMALE | B.B NAGAR | 2 | 14-FEB-11 | 2 | b.b nagar | 7207204221 | yes |
| 3 | AMULYA | 20 | FEMALE | ECIL | 3 | 14-FEB-11 | 3 | Ecil | 0 | yes |
| 4 | NAGARAJU | 20 | MALE | NAGARAM | 4 | 14-FEB-11 | 4 | Nagaram | 9700135300 | yes |
| 5 | AVS.RAVI | 20 | MALE | B.B NAGAR | 5 | 15-FEB-11 | 7 | b.b nagar | 8143528258 | yes |
| 5 | AVS.RAVI | 20 | MALE | B.B NAGAR | 5 | 16-FEB-11 | 1 | b.b nagar | 8143528258 | yes |

Display the number of tickets booked for each PNR\_NO using GROUP BY clause. (Use GROUP BY on PNR\_NO).

**Query**

Mysql>select pnr\_no,sum(no\_of\_seats) from reservation group by pnr\_no;

**Output**

|  |  |
| --- | --- |
| **PNR\_NO** | **SUM(NO\_OF\_SEATS)** |
| 1 | 13 |
| 3 | 3 |
| 5 | 8 |
| 2 | 10 |
| 4 | 4 |

Find the distinct PNR numbers that are present.

**Query**

Mysql>Select distict (pnr\_no) from reservation;

**Output**

|  |
| --- |
| **PNR\_NO** |
| 1 |
| 3 |
| 5 |
| 2 |
| 4 |

Find the number of tickets booked by a passenger where the number of seats is greater than 5. (Use GROUP BY, WHERE and HAVING clauses).

**Query**

Mysql>select pnr\_no,sum(no\_of\_seats) from reservation group by pnr\_no having sum(no\_of\_seats) > 5

**Output**

|  |  |
| --- | --- |
| **PNR\_NO** | **SUM(NO\_OF\_SEATS)** |
| 1 | 13 |
| 5 | 8 |
| 2 | 10 |

Find the total number of cancelled seats.

**Query**

Mysql>select sum(no\_of\_seats) from cancellation;

**Output**

|  |
| --- |
| **SUM(NO\_OF\_SEATS)** |
| 38 |

**EXAMPLE:**

mysql>create table passenger(pnrno int PRIMARY KEY,pname varchar(20),age int,ticketno int,sex varchar(10));

Query OK, 0 rows affected (0.17 sec)

mysql> insert into passenger values(102,'anusha',30,1205,'f'),(103,'sravanthi',40,1206,'f'),(104,'madhavi',55,1208,'f');

Query OK, 3 rows affected (0.05 sec)

Records: 3 Duplicates: 0 Warnings: 0

mysql> insert into passenger values(106,'rajesh',45,1209,'m');

Query OK, 1 row affected (0.06 sec)

mysql> insert into passenger values(107,'ramesh',45,1209,'m');

Query OK, 1 row affected (0.07 sec)

mysql> insert into passenger values(105,'ramesh',45,1210,'m');

Query OK, 1 row affected (0.06 sec)

mysql> select \* from passenger;

+-------+-----------+------+----------+------+

| pnrno | pname | age | ticketno | sex |

+-------+-----------+------+----------+------+

| 102 | anusha | 30 | 1205 | f |

| 103 | sravanthi | 40 | 1206 | f |

| 104 | madhavi | 55 | 1208 | f |

| 106 | rajesh | 45 | 1209 | m |

| 106 | ramesh | 45 | 1209 | m |

| 105 | ramesh | 45 | 1210 | m |

+-------+-----------+------+----------+------+

6 rows in set (0.00 sec)

mysql> select distinct(pnrno) from passenger;

+-------+

| pnrno |

+-------+

| 102 |

| 103 |

| 104 |

| 106 |

| 105 |

+-------+

5 rows in set (0.02 sec)

mysql> select pname from passenger where sex='m';

+--------+

| pname |

+--------+

| rajesh |

| ramesh |

| ramesh |

+--------+

3 rows in set (0.03 sec)

mysql> select pname,ticketno from passenger;

+-----------+----------+

| pname | ticketno |

+-----------+----------+

| anusha | 1205 |

| sravanthi | 1206 |

| madhavi | 1208 |

| rajesh | 1209 |

| ramesh | 1209 |

| ramesh | 1210 |

+-----------+----------+

6 rows in set (0.00 sec)

mysql> select ticketno from passenger where pname like 'r%h';

+----------+

| ticketno |

+----------+

| 1209 |

| 1209 |

| 1210 |

+----------+

3 rows in set (0.03 sec)

mysql> select pname from passenger where age between 30 and 45;

+-----------+

| pname |

+-----------+

| anusha |

| sravanthi |

| rajesh |

| ramesh |

| ramesh |

+-----------+

5 rows in set (0.02 sec)

mysql> select pname from passenger where pname like 'a%';

+--------+

| pname |

+--------+

| anusha |

+--------+

1 row in set (0.00 sec)

mysql> select pname from passenger order by pname;

+-----------+

| pname |

+-----------+

| anusha |

| madhavi |

| rajesh |

| ramesh |

| ramesh |

| sravanthi |

+-----------+

6 rows in set (0.02 sec)