SQL PROJECT Railway Management System

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COURSE: MASTER IN DATA SCIENCE AND ANALYTICS WITH AI

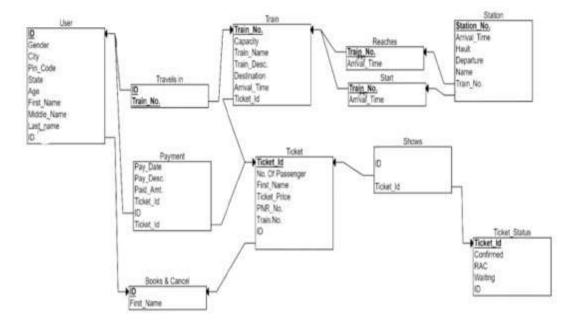
ABOUT DATASET:

This Project is about creating the database about Railway Reservation System. The railway reservation system facilitates the passengers to enquire about the trains available on the basis of destination, booking and cancellation of tickets, enquire about the status of the booked ticket, etc. The aim of case study is to design and develop a database maintaining the records of different trains, train status, and users. The record of train includes its number, name, description, capacity, time, destination.

AVAILABLE TABLES:

- USER
- TRAIN
- STATION
- TICKET
- TICKET_STATUS
- PAYMENT
- BOOKS & CANCEL
- REACHES
- TRAVELS IN
- SHOWS

EER DIAGRAM:



- 1. Write a query to Create table PAYMENT.
 - <u>Mysql> create table payment(Pay_date int,Ticket_Id int,Paid_Amt int,ID</u> int,Pay_Desc Varchar(50));

```
nysql> create table payment(Pay_date int,Ticket_Id int,Paid_Amt int,ID int,Pay_Desc Varchar(50));
Query OK, 0 rows affected (0.02 sec)
nysql>
```

- 2. Write a query to display Schema of the table USER.
 - Mysql> desc user;

```
nysql> desc user;
 Field
                              Null | Key | Default | Extra |
               Type
 ID
               int
                               NO
                                        PRI
                                              NULL
               varchar(50)
varchar(50)
 F_Name
                               YES
                                              NULL
                               YES
 L_name
                                              NULL
 Gender
               char(1)
                               YES
                                               NULL
               int
                                              NULL
 Age
 Mobile_No
               varchar(50)
                               YES
                                               NULL
 City
State
               varchar(50)
varchar(50)
                               YES
                                               NULL
                                              NULL
 pin_code
               varchar(20)
                               YES
                                              NULL
 rows in set (0.00 sec)
```

- 3. Drop primary key of column TRAIN and add it back to the table PAYMENT.
 - MySQL> alter table train drop primary key;

Field	Type	Null	Key	Default	Extra
train no	int	NO NO		NULL	i
train name	varchar(20)	YES		NULL	j
capacity	int	YES		NULL	j
train_desc	varchar(20)	VES		NULL	j
destination	varchar(30)	YES		NULL	İ
arrival time	varchar(30)	YES		NULL	İ

• MySQL> alter table payment add primary key(id);

```
ysql> desc payment;
 Field
           Type
                         | Null | Key |
                                        Default | Extra
                           YES
pay_date
             int
                                        NULL
 ticket_id
             int
                           YES
                                        NULL
             int
                           YES
                                        NULL
 paid_amt
            int
                           YES
                                        NULL
            varchar(20)
                           YES
 pay_desc
                                        NULL
 rows in set (0.01 sec)
```

• MySQL> desc payment

```
mysql> alter table payment add primary key(id);
Query OK, 0 rows affected (0.07 sec)
Records: 0 Duplicates: 0 Warnings: 0
mysql> desc payment;
                            | Null | Key | Default | Extra
 Field
             Type
 pay_date
               int
                                             NULL
 ticket_id
               int
                                             NULL
                              YES
                                             NULL
 paid_amt
               int
                              NO
                                             NULL
             varchar(20)
                                             NULL
 pay_desc
 rows in set (0.00 sec)
```

- 4. Drop the values from table SHOWS and re insert it.
 - MySQL> truncate shows;

• MySQL> select * from shows;

```
nysql> truncate shows;
Query OK, 0 rows affected (2.41 sec)

nysql> select * from shows;;
Empty set (0.01 sec)

ERROR:
No query specified

nysql> select * from shows;
Empty set (0.00 sec)

nysql> _
```

• Mysql > insert into shows values(109900,1),

- 5. Write a query to change the table name USER to CUSTOMER.
 - MySQL> alter table user rename customer;

```
ysql> alter table user rename customer;
uery OK, 0 rows affected (2.32 sec)
vsal> desc user:
RROR 1146 (42502): Table 'project.user' doesn't exist
vsql> desc customer;
 Field
            | Type
                            Null | Key | Default | Extra |
id
             int
                                          NULL
             varchar(30)
 f_name
                                          NULL
 1_name
             varchar(30)
                            YES
                                          NULL
             char(1)
 gender
                            YES
                                          NULL
             int
                            YES
                                          NULL
 age.
 mobile_no
             varchar(20)
                            YES
                                          NULL
             varchar(20)
varchar(30)
                            YES
 city
                                          NULL
 state
                            YES
                                          NULL
             varchar(30)
                            YES
                                          NULL
 pin_code
 rows in set (0.00 sec)
```

- 6. Write a query to display OR logical operator.
 - Mysql> select * from ticket where name = "jaipur" or ticket_price > 200;

```
ysql> select * from ticket where name = "jaipur" or ticket price > 200;
ticket_id | name
                     | ticket_price | train_no |
                                                  id
    109834
             delhi
                       300
                                           2341
    106734
             jaipur
                       156
                                           9043
    109823
             lucknow
                       799
                                           8754
    109992
             mumbai
                       425
                                           2312
    107843
             kolkata
                       500
                                           9076
 rows in set (0.00 sec)
```

7. Display the records of customer paid amt of RS 100 and 650.

Mysql> select * from payment where paid amt between 100 and 650;

```
nysql> select * from payment where paid amt between 100 and 650;
 pay_date
            | ticket_id | paid_amt | id | pay_desc
23-06-2021
                 109900
                                200
                                           upi
 21-05-2020
                 109834
                                300
                                           by cash
 13-02-2020
                 106734
                                156
                                           net banking
 09-08-2019
                                           by cash
                 109992
                                425
 17-03-2021
                 102235
                                500
                                           net banking
 20-09-2019
                 109978
                                200
                                       8
                                           net banking
 05-02-2020
                 105588
                                600
                                       9
                                           upi
 rows in set (0.70 sec)
```

8. Write a query to display name is Delhi and Mumbai from table ticket.

• Mysql> select * from ticket where name in("delhi","mumbai");

9. Write a query to update the train no 1276 of destination is Jammu Kashmir.

```
    mysql> update ticket_status
set ticket_id = 107843
    where id = 5;
```

• <u>mysql> select * from ticket_status where id = 5;</u>

10. Display train name in lower case.

Mysql> select lower("TRAIN_NAME") as lower_case;

- 11. Display first name of customer in UPPER case.
 - Mysql> select upper(concat(f_name)) as f_name from customer;

- 12. Find the train capacity form table train and find 3 letter form the 6th position oftrain name.
 - <u>Mysql> select train_name,capacity,substring(train_name,6,3)</u> as substring from train;

- 13. Write a query to replace Good Morning to Happy Morning with help of replace function.
 - <u>Mysql> select replace("good morning","good","happy");</u>

14. Write a query to remove unwanted white spaces from left side of the string.

• mysql> select ltrim(" virat ") as ltrim;

- 15. Write a query to remove unwanted white spaces from right side of the string.
 - mysql> select rtrim(" india ") as rtrim;

- 16. Display unique train name in the station.
 - Mysql> select distinct(train_name) from train;

```
nysql> select distinct(train_name) from train;

train_name |

ashram express |
delhi jaipur decker |
chandigrah shatabdi |
harijan express |
jammu mail express |
jaipur double decker |
delhi shatabdi |
rajdhani express |
frontier express |
o rows in set (0.32 sec)
```

- 17. Display the unique set of payment mode from table payment.
 - <u>Mysql> select * from payment where pay_desc in ("upi","by cash");</u>

```
ysql> select * from payment where pay_desc in ("upi","by cash");
pay_date
            | ticket_id | paid_amt | id | pay_desc
23-06-2021
                 109900
                                           upi
                                200
21-05-2020
                 109834
                                300
                                           by cash
upi
25-06-2021
                 109823
                                799
09-08-2019
                 109992
                                425
                                           by cash
30-04-2020
                 107843
                                677
                                       6
                                           upi
                 105588
                                           upi
05-02-2020
                                600
                                       q
29-03-2021
                 107823
                                800
                                      10
                                           by cash
rows in set (0.07 sec)
```

- 18. Display the f_name of customer whose name ends with t.
 - Mysql> select f name from customer where f name like "%t";

- 19. Display the set where state is Maharashtra but age is more than 20.
 - Mysql> select * from customer where state = "maharashtra" and age > 20;

- 20. Write a query to display id in Assending order.
 - Mysql> select * from payment-> where_order_by_id;

```
sql> select * from travel_in where_order_by_id;
     | train_no |
id
           1678
           2341
           9043
           8754
           2312
           5632
           9076
  8
           7823
           3452
  10
           8954
 rows in set (0.00 sec)
```

- 21. Display age of 8 customer in DESC order.
 - Mysql> select age from customer order by age desc limit 8;

- 22. Write a query to display now agrigate function.
 - Mysql> select now();

- 23. Find the AVERAGE capacity for train.
 - <u>Mysql> select avg(capacity) as average _capacity from train;</u>

- 24. Find the MAXIMUM ticket price form the table.
 - mysql> select max(ticket_price) as max_of_ticekt_price from ticket;

- 25. Write a query to display club of First name, Age, City from the table.
 - Mysql> select f_name,age,city from customer group by f_name,age,city;

```
nysql> select f_name,age,city from customer group by f_name,age,city;
 f name
            | age | city
                  20 | badarpur
19 | roshanara
19 | vasai
22 | belapur
23 | nerul
26 | sangam vil
29 | ganga ghat
 rohit
 mohit
 purchit
 manav
 pritesh
 nachiket
                         sangam vihar
 jayesh
                         ganga ghat
                       | golden temple
| vashi
 hitesh
                   35
                         vashi
 mitesh
                  36 | chembur
 nayan
0 rows in set (0.11 sec)
```

- 26. Write a query to find average capcity of train with train name using group by clause.
 - Mysql> select train_name, avg(capcity) from train group by train_name;

- 27. Write a query to display HAVING cluse.
 - <u>Mysql> select sum(ticket_price),f_name from ticket group by f_name having sum(ticket_price) > 200;</u>

```
ysql> select sum(ticket_price),f_name from ticket group by f_name having sum(ticket_price) > 200;

sum(ticket_price) | f_name |

300 | delhi |
799 | lucknow |
425 | mumbai |
577 | milehebed |
590 | kolkata |
600 | madras |
800 | rajasthan |

rows in set (8.23 sec)
```

- 28. Write a query to find a FLOOR value.
 - mysql> select floor(572.326) as floor;

- 29. Write a query to find **CEILING** value.
 - mysql> select ceiling(470.23) as ceiling;

```
mysql> select ceiling(470.23) as ceiling;
+------+
| ceiling |
+------+
| 471 |
+-----+
1 row in set (0.00 sec)
```

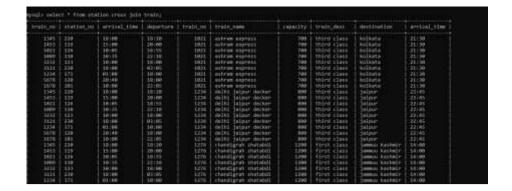
- 30. Write a query to find TRUNCATE values.
 - <u>mysql> select truncate(123.457,2) as truncate;</u>

- 31. Write a query to display customer city where customer name is purohit using single row subquery.
 - <u>Mysql> select * from customer where city = (select city from customer where f name = "purohit");</u>

```
mysql> select * from customer where city * (select city from customer where f_name = "purohit");
| id | f_name | l_name | gender | age | mobile_no | city | state | pin_code |
| 3 | purohit | mhatre | m | 19 | 6295896385 | vasai | maharashtra | 110087 |
| row in set (0.88 soc)
```

- 32. Write query to display Multiple Row Subquery.
 - <u>Mysql> select * from customer where f_name in (select distinct f_name from customer where age > 20);</u>

- 33. Write a query to join table Station and Train with using CROSS JOIN.
 - Mysql> select * from station cross join train;

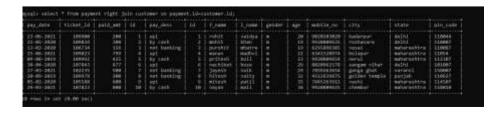


- 34. Write a query to display Age, City, State from the table where id is same.
 - <u>Mysql> select age,city,state from customer inner join books and cancel on customer.id = books and cancel.id;</u>

- 35. Write a query to join two tables and display all the details of the customer with the help of customer id.
 - Mysql> select * from customer left join payment on customer.id=payment.id;



- 36. Write a query to display Right Join.
 - Mysql> select * from payment right join customer on payment.id=customer.id;



37. Write a query to display union of left join & right join.

```
mysql> select ticket.name,train.capcity,
ticket.id,train.destination from
ticket

left join train on
ticket.name = train.capcity union
select ticket.name,train.capcity,
ticket.id,train.destination
from ticket right join train on
ticket.name = train.capcity;
```

```
nysql> select ticket.name,train.capcity,
   -> ticket.id,train.destination
-> from ticket
   -> left join train
   -> on ticket.name = train.capcity
   -> union
   -> select ticket.name, train.capcity,
   -> ticket.id,train.destination
   -> from ticket
   -> right join train
   -> on ticket.name = train.capcity;
             | capcity | id
                              destination
 name
 chandigarh |
                 NULL
                                NULL
                              NULL
 delhi
                 NULL
 jaipur
                 NULL
                            4
 1ucknow
                 NULL
                                NULL
 mumbai
                 NULL
                                NULL
 kolkata
                 NULL
                                NULL
 NULL
                  700
                        NULL
                                kolkata
                  600
                                allahabad
                        NULL
 NULL
 NULL
                  3600
                        NULL
                                madhya pradesh
                        NULL | madras
 NULL
                 2500
0 rows in set, 12 warnings (0.01 sec)
```

- 38. Create table platform2 with using views.
 - mysql> create view platform2 as select name, ticket_price from ticket where ticket.id<5;

THANK YOU.