

DBMS DIGITAL ASSIGNMENT

SLOT L33+L34

QUESTION 3-6

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QUESTION 3

1) alter table train add constraint trn_chk
check(train_number>10001 and train_number<99999);

```
SQL> Alter table train add constraint trn_chk check(train_NUMBER>10001 and train_NUMBER<99999);  
Table altered.  
SQL>
```

2) alter table train_route modify name constraint
trn_rt_un unique;

```
SQL> alter table train_route modify name constraint trn_rt_un unique;  
Table altered.
```

3) alter table train modify start_time date;
alter table train modify reach_time date;

```
SQL> alter table train modify start_time date;  
Table altered.  
  
SQL> alter table train modify reach_time date;  
Table altered.
```

4) alter table train_ticket_fare add constraint
trn_tkt_fr_chk
check(class in ('1A', '2A','3A','SL','C'));

```
SQL> alter table train_ticket_fare add constraint trn_tkt_fr_chk  
2 check(class in ('1A', '2A','3A','SL','C'));  
  
Table altered.
```

5) alter table train_route modify distance constraint
trn_rt_nn not null;

```
SQL> alter table train_route modify distance constraint trn_rt_nn not null;  
  
Table altered.
```

Question 4

PS all data (tuples) were in lab system and cant be accessed hence only queries shown here

1) select * from ticket where DOJ=to_date((select add_months(sysdate,1) from dual));

2) select name, upper(name) "Train Name" from train;

```
SQL> select name, upper(name) "Train Name" from train;
no rows selected
```

3) select lpad(name,20,'\$') "Name" from passenger;

```
SQL> select lpad(p_name,20,'$')Name from passenger;
no rows selected
```

4) select translate(stationcode,'K','M') "S code" from train_route;

5) select replace(class, '2A','SLEEPER') "Class" from ticket;

```
SQL> select replace(ticket_class, '2A','SLEEPER') "Class" from ticket;
no rows selected
```

6) select nullif(basefare, 0) "fare" from train_ticket_fair;

7) select pnrno, nvl(transactionid,'not generated') "T id" from ticket;

```
SQL> select pnrno, nvl(transactionid,'not generated') "Transactionid" from ticket;
no rows selected
```

8) select to_char(dateofjourney, 'ddth month yyyy') "Date of Jr" from ticket;

9) select max(total_fare) "Total Fare" from ticket;

```
SQL> select max(total_ticket_fare) "Total Fare" from ticket;

Total Fare
-----
```

10) select pnrno, avg(age), min(age) from passenger group by pnrno;

11) select name from train_route wher e
length(name)=(select max(length(name)) from train_route);

12) select pnrno,round(total_ticket_fare) from ticket;

13) alter table train_route add (halt_time number(4,2));

14) update train_route set halt_time=
to_number(depart_time)-to_number(arrival_time);

```
SQL> Update train_route set Arrival_time = '10-AUG-17,06:00:00 PM',Depart_time =
'10-AUG-17,06:05:00 PM' where train_number=10001;
1 row updated.
```

16) Select to_char(arrival_time, 'HH:MM') from train_route;

Question 5

SET OPERATIONS

- 1) SQL> select train_number from trains minus select train_number from ticket;
- 2) select name from trains where train_number in (select train_number from train_ticket_fare where class not like (%A%));
- 3) select distinct(pnrno) from passenger_details union all select distinct(pnrno) from ticket;
- 4) select name from passenger_details, ticket where (passenger_details.pnrno=ticket.pnrno and ticket.to_station='Pune');

NESTED QUERIES

- 1) select trains.name from trains, train_route where train_route.name='Katpadi' and train_route.train_no=trains.train_number;
- 2) select name from trains where train_number=(select train_no from train_ticket_fare where service_tax=0);
- 3) select name from passenger_details where pnrno in (select pnrno from ticket where from_station='Chennai');
- 4) Select name from tttrain where train_number in (select train_number from train_ticket_fare where base_fare < 3000 Intersect Select train_number from train_ticket_fare where Class ='1A' AND Class = '2A' AND CLASS ='3A');

```
SQL> select train_number from trains
2 minus
3 select train_number from ticket;
```

TRAIN_NUMBER
11114
11115
11123
11124

```
SQL> select name from trains where train_number in (select train_number from train_ticket_fare where class not like('%0%'));
```

NAME
Sanghanitra
Duronto_Exp
Jharath_Exp
Turbo
Rajdhani
Chennai_Exp
Chennai_Super_Exp
SUNDAY_Exp
New Express

9 rows selected.

```
SQL> select distinct(pnrno) from passenger_details
2 union all
3 select distinct(pnrno) from ticket;
```

PNRNO
10010
300001
300002
300003
300004
300001
300002
300003
300004
300005
300006
PNRNO
300007
300008

13 rows selected.

```
SQL> select name from trains
2 where train_number=(select train_no from train_ticket_fare where service_ta
x=0);
```

NAME
Sanghanitra

SQL>

JOIN QUERY

- 1) Select name from trains join ticket on
trains.train_number =ticket.train_number where
ticket.to_station='Chennai';
- 2) Select name from trains join train_ticket_fare on
trains.train_number =
train_ticket_fare.train_no where
train_ticket_fare.service_tax=0 and
trains.type="Superfast";
- 3) Select name from passenger_details join ticket on
passenger_details.pnrno=ticket.pnrno;
- 4) Select tr.name ,tr.class, fare.base_fare from trains tr,
train_ticket_fare fare where
tr.train_number= fare.train_number;
- 5) Select * from trains t, ticket ti where t.train_number =
ti.Train_number;
- 6) Select t.pnrno, p.pnrno from trains t, passenger_details
p where t.pnrno=p.pnrno;
- 7) Select * from trains t, ticket ti where t.train_number=
ti.train_number;


```
SQL> select name from trains join ticket on trains.train_number=ticket.train_number where ticket.to_station='Chennai';
```

NAME

Rajdhani

```
SQL> select name from trains join train_ticket_fare on trains.train_number=train_ticket_fare.train_no where train_ticket_fare.service_tax=0 and trains.type='Superfast';
```

NAME

Duronto_Exp

```
SQL> Select name from passenger_details join ticket on passenger_details.pnrno=ticket.pnrno;
```

NAME

Rohan
Rohini
Anupriyam
Asha
Arithik
Ghosh
Ishan
Niket
Narun
Krishna
Isha

11 rows selected.

```
SQL> Select tr.name ,tr.class, fare.base_fare from trains tr, train_ticket_fare fare where tr.train_number= fare.train_no;
```

NAME	CLASS	BASE_FARE
Sanghanitra	1A,2A,3A	1950
Sanghanitra	1A,2A,3A	2850
Sanghanitra	1A,2A,3A	4850
Duronto_Exp	1A,2A,3A,S	1650

QUESTION 6

- 1) Select name from trains where train_number in (select train_number from trains intersect select train_number from train where train_number in (select pnrno from ticket group by pnrno having count(*) >10));
- 2) Select name from trains where train_number in (select train_number from trains intersect select train_number from train where train_number in (select pnrno from ticket group by pnrno having count(*) >10));
- 3) Select name from passenger_details p where pnrno in(select pnrno from ticket t where exists (select 1 from train_route r where t.train_number=r.train_number and r.route_no in ('1','4')));
- 4) Select name from passenger_details where pnrno in (select pnrno from passenger_details intersect select pnrno from ticket where train_number in(select train_number from ticket intersect select train_number from train_ticket_fare where superfast_charge is NOT NULL));

```
SQL> SELECT Name FROM TRAIN WHERE Train_Number IN(SELECT Train_Number FROM TRAIN
INTERSECT SELECT Train_Number FROM TRAIN WHERE Train_Number IN(SELECT PNRNo FROM
TICKET GROUP BY PNRNo HAVING count(*)>10));
```

no rows selected

```
SQL> SELECT Name FROM TRAIN T WHERE Train_Number IN(SELECT Train_Number FROM TIC
KET Q WHERE T.Train_Number=Q.Train_Number AND Q.sub_station>10);
```

NAME

 Calicut
 Double Decker
 Erindivan
 ERTM PQ

```
SQL> SELECT Name FROM PASSENGER_DETAILS P WHERE PNRNo IN(SELECT PNRNo FROM TICKET
T WHERE EXISTS(SELECT 1 FROM TRAIN_ROUTE Q WHERE T.Train_Number=Q.Train_Number
AND Q.RouteNo IN('1','4')));
```

NAME

 Erindivan
 Erindivan

```
SQL> SELECT Name FROM PASSENGER_DETAILS WHERE PNRNo IN(SELECT PNRNo FROM PASSENGE
R_DETAILS INTERSECT SELECT PNRNo FROM TICKET WHERE Train_Number IN(SELECT Train
_Number FROM TICKET INTERSECT SELECT Train_Number FROM TRAIN_TICKET_PARE WHERE S
uperfast_Charge IS NOT NULL));
```

NAME

 Erindivan
 Erindivan
 Erindivan
 Erindivan
 Erindivan

COMPLEX QUERIES

1) Select t.train_number, t.name, q.from_station, q.in_station from train t left outer join ticket q on

t.train_number=q.train_number;

2) Select t.name , q.sub_station from trains t left outer join train_route q on t.train_number=q.train_no;

3) Select distinct (q.to_station) from train t right outer join ticket q on t.train_number=q.train_number;

4) Select t.name from trains t where t.train_number in (select train_number from ticket q where q.pnrno in(select pnrno from passenger_details p where p.reservation_status='CNF')));

```
SQL> Select t.train_number, t.name, q.from_station,q.to_station from trains t left
outer join ticket q on t.train_number=q.train_number;
```

TRAIN_NUMBER	NAME	FROM_STATION	TO_STATION
11121	Chennai_Super_Exp	Chennai	Mumbai
11111	Sanghanitra	Bengaluru	Patna
11116	Rajdhani	Delhi	Mumbai
11116	Rajdhani	Delhi	Mumbai
11112	Duronto_Exp	Kolkata	Patna
11112	Duronto_Exp	Kolkata	Patna
11120	Chennai_Exp	Chennai	Mumbai
11121	Chennai_Super_Exp	Chennai	Mumbai
11124	New Express		
11115	Turbo		
11114	Jiarath Exp		

```
SQL> Select t.name , q.station_code from trains t left outer join train_route q
on t.train_number=q.train_no;
```

NAME	SIA
Sanghanitra	NCP
Sanghanitra	QDS
Duronto_Exp	ARA
Duronto_Exp	Mak

```
SQL> Select distinct (q.to_station) from trains t right outer join ticket q on t
.train_number=q.train_number;
```

TO_STATION

Patna
Mumbai

```
SQL> Select t.name from trains t where t.train_number
2 in (select train_number from ticket q where
3 q.parno in(select parno from passenger_details p
4 where p.reservation_status='CNR'));
```

NAME

Sanghanitra
Rajdhani

5) Create table cancellation_history(

DOC date,pnrno number(5));

6) Select name from passenger_details where
pnrno in (select pnrno from passenger_details
intersect select pnrno from ticket where
train_number in (select train_number from
ticket intersect select train_number from
train_ticket_fare where superfast_charge is not
null));

7) Select to_station, count(*) as num from ticket
GROUP BY to_station having count(*)=(select
max(num)

from (select to_station ,count(*) as num from
ticket group by to_station));

```
SQL> Create table cancellation_history(  
2 DOC date,prno number(5));  
Table created.
```

```
SQL> SELECT Name FROM PASSENGER_DETAILS WHERE PNRNo IN(SELECT PNRNo FROM PASSENGER_DETAILS INTERSECT SELECT PNRNo FROM TICKET WHERE Train_Number IN(SELECT Train_Number FROM TICKET INTERSECT SELECT Train_Number FROM TRAIN_TICKET_FARE WHERE Superfast_Charge IS NOT NULL));
```

```
NAME  
-----  
Ayan  
Nidhi  
Armaan  
Rohan  
Shivan
```

```
SQL> Select to_station, count(*) as num from ticket GROUP BY to_station having count(*)=(select max(num) from (select to_station ,count(*) as num from ticket group by to_station));
```

TO_STATION	NUM
Mumbai	5