B.SC PART-III HONOURS EXAMINATION

SUBJECT: DBMS/SQL

ROLL: 3201116 NO.: 11633

REG.NO: 1031711300433 OF 2017-2018

PAPER: CMSA-VIII

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SERIAL NO.	PROBLEM STATEMENTS	DATE	TEACHER'S SIGN
1.	Write the SQL commands for the creation of tables and insert the appropriate values among all entities successfully and answer the following queries	4/11/19	
2.	Write the SQL commands for the creation of tables and 'insert the appropriate values among all entities successfully and answer the following queries	18/11/19	
3.	Write the SQL commands for the creation of tables and insert the appropriate values among all entities successfully and answer the following queries and display the table using visual basic	25/11/19	

ASSIGNMENT NO-1

Date 4/11/19

PROGRAM DESCRIPTION: Write the SQL commands for the creation of tables and insert the appropriate values among all entities successfully and answer the following queries.

SCHEMA:

Employee:

E_NAME SSN1 DOB DNO CITY

Department:

D_NAME DNUM MGRSSN LOC

Dependent:

SSN DEPENDENT_NAME BIRTH_DATA ADDRESS

Project

P_NAME PNUM P_LOC Dno CITY

Works_On

ESSN PNO ORDER

CREATE COMMAND

create table employee (E_name varchar(10), ssn varchar(10), dob date, dno integer, city char(20), primary key (ssn));

Table created.

create table Dept

```
(D_name varchar (20),
DNO integer,
MGRSSN varchar(10),
LOC varchar(20),
primary key (DNO));
Table created.
create table Project
(P NUM varchar(20),
PNUM integer primary key,
P_Loc varchar(10),
Dno integer,
foreign key (Dno) references Dept (DNO));
Table created.
create table Works On
(ESSN varchar(10),
PNO integer,
ODR varchar(10),
primary key (ESSN,PNO),
foreign key (ESSN) references employee(ssn),
foreign key (PNO) references Project(PNUM));
Table created.
create table dependent
(ssn varchar(10),
dependant_name varchar(10),
birth date,
address varchar(10));
```

Table created.

<u>INSERT COMMAND</u>

SQL>insert into employee values ('John Smith','1234','09-jan-1965',5,'Fordren');
1 row created.

SQL>insert into employee values ('John Smith','1234','09-jan-1965',5,'Fordren');
1 row created.

SQL>insert into employee values ('F Wong','5678', '08-DEC-55', '5', 'Voss');
1 row created.

SQL>insert into employee values ('A Zelaya','3333','19-JAN-68',5,'Barlin');

- 1 row created.
- SQL>insert into employee values ('R Narayan', '7777', '02-FEB-70', 4, 'Berry'); 1 row created.
- SQL>insert into employee values ('A Jabbar', '8888', '03-MAR-71', 4, 'Fire oak'); 1 row created.
- SQL>insert into employee values ('J Bong','9876','13-MAR-87',3,' Rice'); 1 row created.
- SQL>insert into employee values ('J Smith','9765','13-MAR-74',1,'Dallas'); 1 row created.
- SQL>insert into employee values (' J Wading', '9555', '24-DEC-77', 5, 'Stone'); 1 row created.
- SQL>insert into employee values ('Pritam Roy','4567','08-aug-1973',1,'Stone'); 1 row created.
- SQL>insert into employee values ('Dip Roy','4568','08-aug-2005',1,'Stone'); 1 row created.
- SQL>insert into employee values ('Pratim Sen','4447','08-aug-2005',6,'Stone'); 1 row created.
- SQL>insert into employee values ('S Singh','3339','08-aug-2005',6,'Berry'); 1 row created.
- SQL>insert into employee values ('S Hussen','7687','19-feb-2004',6,'Hamilton'); 1 row created.
- SQL>insert into Dept values ('Research',5,'3333','Fordren'); 1 row created.
- SQL>insert into Dept values ('Administration',4,'7777','Barlin'); 1 row created.
- SQL>insert into Dept values ('Marketing',1,'4567','Fire Oak'); 1 row created.
- SQL>insert into Dept values ('Finance',3,'4567','Voss'); 1 row created.
- SQL>insert into Dept values ('IT',6,'4567','Hantington'); 1 row created.
- SQL>insert into Project values ('ProductX',10,'Bellaire',6); 1 row created.

- SQL>insert into Project values ('ProductY',30,'Sugarland',1); 1 row created.
- SQL>insert into Project values ('ProductZ',20,'Houston',1); 1 row created.
- SQL>insert into Project values ('Computeraization',40,'Houston',6); 1 row created.
- SQL>insert into Project values ('Reorganization',50,'Stafford',6); 1 row created.
- SQL> insert into Works_On values('4447',10,'order1'); 1 row created.
- SQL>insert into Works_On values('3339',40,'order2'); 1 row created.
- SQL>insert into Works_On values('7687',50,'order3'); 1 row created.
- SQL>insert into Works_On values('9765',30,'order4'); 1 row created.
- SQL>insert into Works_On values('4568',20,'NULL'); 1 row created.
- SQL>insert into dependent values ('7237','Joy','09-feb-2005','Barlin'); 1 row created.
- SQL>insert into dependent values ('7687','Amrit','19-jan-2001','Houseton'); 1 row created.
- SQL>insert into dependent values ('8888','Riya','05-aug-1978','Fire Oak'); 1 row created.
- SQL>insert into dependent values ('7777','Priyanka','15-sep-1988','Berry'); 1 row created.
- SQL>insert into dependent values ('5678','Mia','21-oct-1970','Voss'); 1 row created.
- SQL>insert into dependent values ('9555', 'Suzi', '09-oct-1970', 'Stone'); 1 row created.

DISPLAY COLUMN OF TABLE

SQL> select* from employee;

E_NAME	SSN1	DOB	DNO	CITY
John Smith	1234	09-JAN-65	5	Fordren
F Wong	5678	08-DEC-55	5	Voss

A Zelaya	3333	19-JAN-68	5	Barlin
R Narayan	7777	02-FEB-70	4	Berry
A Jabbar	8888	03-MAR-71	4	Fire Oak
J Bong	9876	13-MAR-87	3	Rice
J Smith	9765	13-MAR-74	1	Dallas
J Wading	9555	24-DEC-77	5	Stone
Pritam Roy	4567	08-AUG-73	1	Stone
Dip Roy	4568	08-AUG-05	1	Stone
Pratim Sen	4447	08-AUG-05	6	Stone
E_NAME	SSN1	DOB	DNO	CITY
S Singh	3339	08-AUG-05	6	Berry
S Hussen	7687	19-FEB-04	6	Hamilton
A Manna	7237	19-MAR-94	6	Barlin
14 rows sele	ected.			

SQL> select* from DEPT;

D_NAME	DNO	MGRSSN	LOC
Research	5	3333	Fordren
Administration	4	7777	Barlin
Finance	3	4567	Voss
IT	6	4567	Hantington
Marketing	1	4567	Fire Oak

SQL> select* from project;

P_NUM	PNUM	P_LOC	DNO
ProductX	10	Bellaire	6
ProductY	30	Sugarland	1
ProductZ	20	Houston	1
Computeraization	40	Houston	6
Reorganization	50	Stafford	6

SQL> select* from Works_On;

ESSN	PNO	ODR
4447	10	order1
3339	40	order2
7687	50	order3
9765	30	order4
4568	20	NULL

SQL> se	lect* fron	n dependent;	
SSN	DEPEN_	BIRTH A	DDRESS
7237	Joy	09-FEB-05	Barlin
7687	Amrit	19-JAN-01	Houseton
8888	Riya	05-AUG-78	Fire Oak
7777	Priyanka	15-SEP-88	Berry
5678	Mia	21-OCT-70	Voss
9555	Suzi	09-OCT-70	Stone

6 rows selected.

QUERIES

Q1. Find the projects that have involved 'Pritam Roy' as manager

SQL> select P_NUM

- 2 from Project, Employee , Dept
- 3 where Project.Dno=Dept.DNO AND Dept.DNO=Employee.dno AND ssn=MGRSSN AND E_name='Pritam Roy';

P_NUM

ProductY

ProductZ

Q2. Find the employers who have no dependent.

SQL> select E_name

from employee

where NOT EXISTS

(select*

from dependent

where ssn1=ssn);

E_NAME

John Smith

A Zelaya

J Bong

J Smith

Pritam Roy

Dip Roy Pratim Sen S Singh

8 rows selected.

Q3. Find the projects and numbers of employers who work on the project.

SQL> SELECT P_NUM,COUNT(ssn)

- 2 FROM employee E, Project P
- 3 WHERE E.dno=P.Dno
- 4 GROUP BY P_NUM;

P_NUM	COUNT(SSN)
Computeraization	4
ProductZ	3
ProductY	3
Reorganization	4
ProductX	4

Q4. Find the name, DOB and dept no of the employees who works on the same project.

SQL> SELECT E_name,DOB,D.DNO

- 2 from employee E, Dept D
- 3 where E.dno=D.DNO
- 4 ORDER BY E.dno;

E_NAME	DOB	DNO
J Smith	13-MAR-74	1
Dip Roy	08-AUG-05	1
Pritam Roy	08-AUG-73	1
J Bong	13-MAR-87	3
R Narayan	02-FEB-70	4
A Jabbar	03-MAR-71	4
F Wong	08-DEC-55	5

A Zelaya	19-JAN-68	5
J Wading	24-DEC-77	5
John Smith	09-JAN-65	5
Pratim Sen	08-AUG-05	6
S Hussen	19-FEB-04	6
A Manna	19-MAR-94	6
S Singh	08-AUG-05	6

14 rows selected.

Q5. Find the names of employees and departments who was born in $\bf 08$ aug $\bf 2005$

SQL> select E_name , D_name

- 2 from employee E, Dept D
- 3 where E.dno=D.DNO AND E.DOB='08-aug-2005';

E_NAME D_NAME

S Singh IT

Pratim Sen IT

Dip Roy Marketing

ASSIGNMENT NO: 2	2
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DATE: 18/11/2019

PROGRAM DESCRIPTION:

Write the SQL commands for the creation of tables and insert the appropriate values among all entities successfully and answer the following queries.

SCHEMA:

BRANCH

<u>branch_name</u> Branch_city assets

CUSTOMER

customer_name	street	city
		1

LOAN

<u>branch_name</u>	<u>Loan_no</u>	amount

ACCOUNT

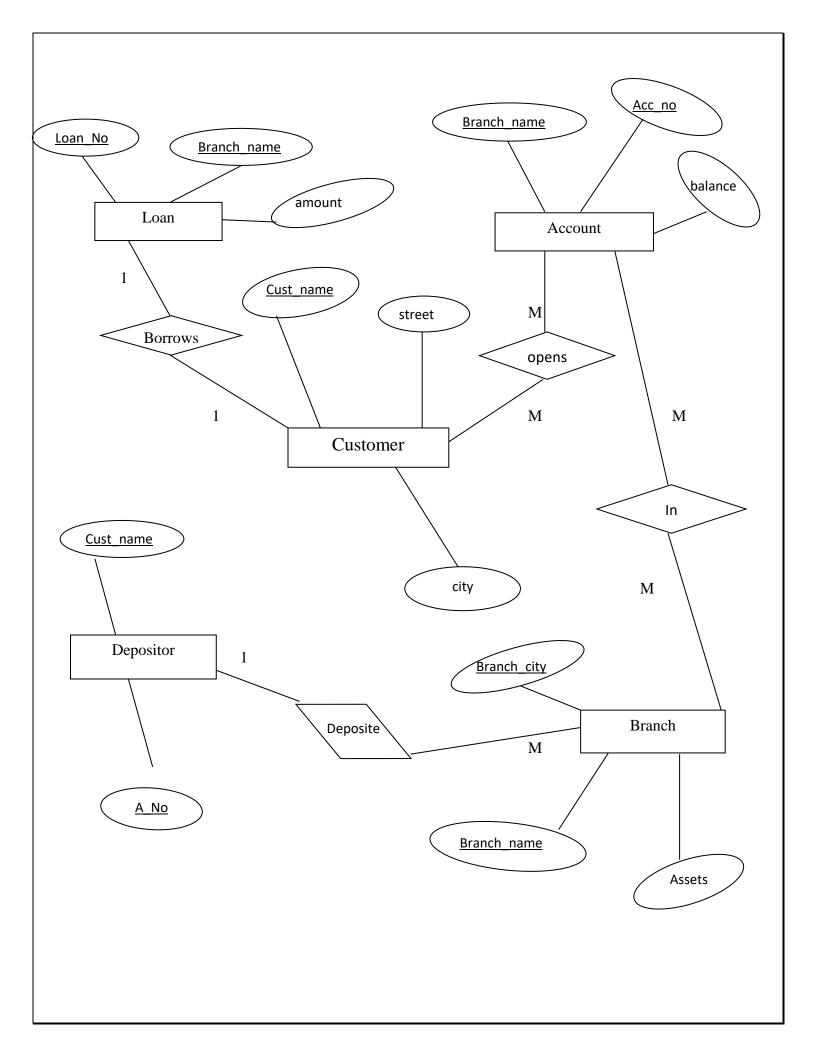
branch_name	Acc_no	balance
-------------	--------	---------

DEPOSITOR

<u>Cust_name</u>	<u>A_no</u>

ENTITY RELATIONSHIP (ER) DIAGRAM:

THE DIAGRAM IS SHOWN AS FOLLOW:-----



CREATE COMMAND:

SQL> create table branch
2 (branch_name varchar(12) primary key,
3 branch_city varchar(20),
4 assets varchar(10));
Table created.
SQL> create table customer
2 (customer_name varchar(12) primary key,
3 street varchar(30),
4 city varchar(10));
Table created.
SQL> create table Loan
2 (branch_name varchar(12) references branch,
3 loan_no integer primary key,
4 amount number(6));
Table created.
SQL> create table Account
2 (branch_name varchar(12) references branch,
3 acct_no integer primary key,
4 balance integer);

Table created.

```
SQL>create table Depositor
2 (cust_name varchar(12) references customer,
3 A_No integer references Account);
Table created.
INSERT COMMAND:
SQL> insert into branch values ('SBI', 'Durgapur', '5 crore');
1 row created.
SQL> insert into branch values ('UBI', 'Durgapur', '7 crore');
1 row created.
SQL>insert into branch values ('UCO', 'Mumbai', '8 crore');
1 row created.
SQL>insert into branch values ('AXIS', 'Gariahat', '6 crore');
1 row created.
SQL>insert into customer values('Amal PAI', 'S.Bagan_street', 'Gariahat');
1 row created.
SQL>insert into customer values('Trina Das', 'T.D.Banarjee', 'Garia');
1 row created.
SQL>insert into customer values('Riya Roy', 'B-20,old courtstreet', 'Gariahat');
1 row created.
SQL>insert into customer values('Adi Dey', 'Camac street', 'Kolkata');
1 row created.
```

```
SQL> insert into loan values('SBI', 1001, 85000);
1 row created.
SQL> insert into loan11 values('UBI', 1002, 90000);
1 row created.
SQL> insert into loan11 values('SBI', 1003, 100000);
1 row created.
SQL> insert into loan11 values('AXIS', 1004, 80000);
1 row created.
SQL> insert into Account16 values('UBI', 4002, 90000);
1 row created.
SQL> insert into Account16 values('SBI', 4003, 100000);
1 row created.
SQL> insert into Account16 values('AXIS', 4004, 80000);
1 row created.
SQL>
1 row created.
SQL>insert into Depositor values('Amal Pal', 4001);
1 row created.
SQL>insert into Depositor values('Trina Das', 4002);
1 row created.
```

DISPLAYING TOTAL ROWS OF TABLE:

SQL> select * from branch;

BRANCH_NAME BRANCH_CITY ASSETS

SBI Durgapur 5 crore

UBI Durgapur 7 crore

UCO Mumbai 8 crore

AXIS Gariahat 6 crore

SQL>select * from customer;

CUSTOMAR_NAME STREET CITY

Amal Pal S.Bagan_street Gariahat

Trina Das T.D.Banarjee Garia

Riya Roy B-20,old courtstreet Gariahat

Adi Dey Camac street Kolkata

SQL> select * from loan;

BRANCH_NAME	LOAN_NO	AMOUNT
SBI	1001	85000
UBI	1002	90000
SBI	1003	100000
AXIS	1004	80000

SQL> select * from Account;

BRANCH_NAME	ACCT_NO	BALANCE
SBI	4001	85000
UBI	4002	90000
SBI	4003	100000
AXIS	4004	80000

SQL>select * from Depositor;

CUST_NAME	A_NO
Amal Pal	4001
Trina Das	4002

QUERIES:

1.Find all customers who have an account at all the branches located in Durgapur.

```
SQL>select customer_name
   from customer c
   where not exist
((select branch_city
from branch
where branch_city='Durgapur'))
minus
((select cust_name
from Depositor D
where D.cust_name = c.cust_name));
SQL>commit;
CUST_NAME
                   BRANCH_CITY
Amal Pal
                   Durgapur
Trina Das
                    Durgapur
2.Find the average account balance of those branches where the average account balance is
greater than Rs.80000/-.
SQL> select branch_name
 from Account
 where balance=(select avg (balance)
             from Account);
SQL>commit;
BRANCH_NAME
```

UBI

SBI

3. Find the customers who have deposited ammounts to the same branches.

SQL> select cust_name

from Account A, Depositor D

where A.Acc_No=D.A_No

group by branch_name;

SQL>commit;

BRANCH_NAME CUST_NAME

SBI Amal Pal

SBI Riya Roy

UBI Trina Das

Axis Adi Dey

4.Get the ammount info of the customers who have loaned from the branches with assets more then 5 crore.

SQL> select c.customer_name

from customer c

where Depositor D on D.cust_name=c.customer_name and

Account A on A.ACC_No=D.A_No and

Branch B on B.branch_name=A.branch_name and

B.assets > '5 crore';

```
SQL>commit;
CUST_NAME
Trina Das
Adi Dey
5. Find the depositors who lives in Gariahat with having loan more than one.
SQL> select c.customer_name
   from Depositor D
   where Loan L on L.loan_no=D.A_No
      and customer c on c.customer_name=D.cust_name
      and c.city='Gariahat'
      group by c.customer_name
      having count(L.loan_no)>1;
SQL>commit;
CUST_NAME
Amal Pal
Riya Roy
```

DATE: 25/11/19

ASSIGNMENT NO.3

PROGRAM DESCRIPTION: Write the SQL commands for the creation of tables and insert the appropriate values among all entities successfully and answer the following queries.

SCHEMA:

CUSTOMER

CUST_ID	CUST_NAME	ANUUAL_REV	CUST_TYPE

TRUCK

TRUCK_NO	DRIVER_NAME

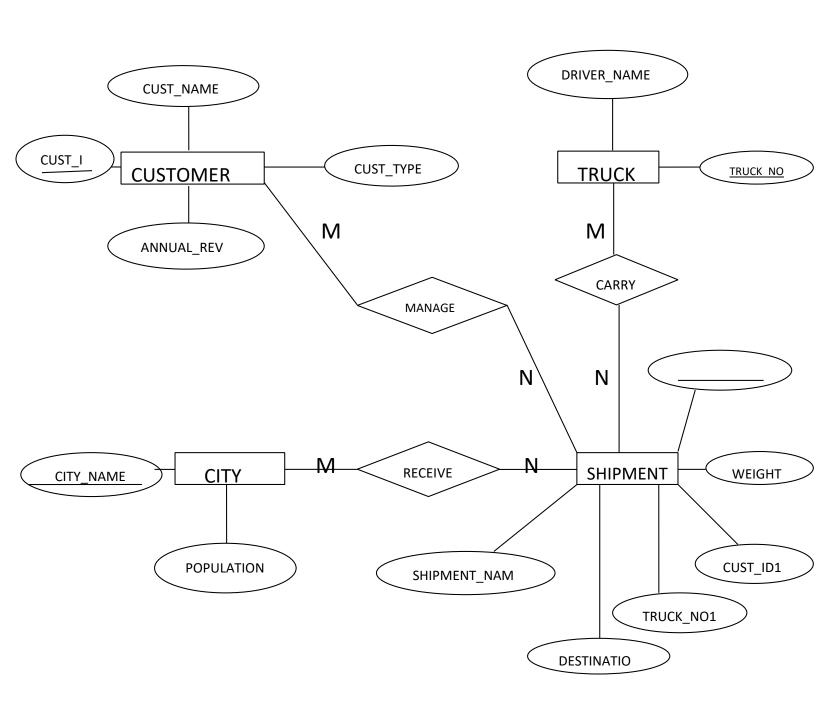
CITY

CITY_NAME	POPULATION

SHIPMENT

SHIPMENT_ID	CUST_ID1	WEIGHT	TRUCK_NO1	DESTINATION	SHIPMENT_NAME

ENTITY RELATIONSHIP (ER) DIAGRAM:



CREATE COMMAND:

SQL> create table customer

- 2 (cust_id number(10),
- 3 cust_name varchar2(20),
- 4 annual_rev integer,
- 5 cust_type varchar2(20),
- 6 primary key(cust_id));

Table created.

SQL> create table truck

- 2 (truck_no number(10),
- 3 driver_name varchar2(15),
- 4 primary key(truck_no));

Table created.

SQL> create table city

- 2 (city_name varchar2(30),
- 3 population integer,
- 4 primary key(city_name));

Table created.

SQL> create table shipment

- 2 (shipment_id number(5),
- 3 cust id1 number(10),
- 4 weight integer,
- 5 truck_no1 number(10),
- 6 destination varchar2(30),
- 7 shipment_name varchar2(20),
- 8 primary key(shipment_id),
- 9 foreign key(cust_id1) references customer(cust_id),
- foreign key(truck_no1) references truck(truck_no), 11 foreign key(destination) references city(city_name));

Table created.

DISPLAY COMMAND:

SQL> desc customer;

Name	Null?	Type
CUST_ID CUST_NAME ANNUAL_REV CUST_TYPE	NOT NULL	NUMBER(10) VARCHAR2(20) NUMBER(38) VARCHAR2(20)
SQL> desc truck;		
Name	Null?	Туре
TRUCK_NO DRIVER_NAME	NOT NULL	NUMBER(10) VARCHAR2(15)
SQL> desc city;		
Name	Null?	Туре
CITY_NAME	NOT NULL	VARCHAR2(30)

SQL> desc shipment;

Name	Null?	Туре	
			-
SHIPMENT_ID	NOT NULL	NUMBER(5)	
CUST_ID1		NUMBER(10)	
WEIGHT		NUMBER(38)	
	NUMBER(10) DEST	ΓΙΝΑΤΙΟΝ	
		()	

TRUCK_NO1 VARCHAR2(30) SHIPMENT_NAME

VARCHAR2(20)

SQL> alter table customer add(check(cust_id >100 and cust_id <500));

Table altered.

SQL> alter table customer add(check(cust_type in ('manufacturer', 'wholeseller', 'retailer')));

Table altered.

INSERT COMMAND:

SQL>insert into customer values (258, 'siram', 560000, 'manufacturer');

1 row created.

SQL>insert into customer values (141, 'karim', 60000, 'retailer');

1 row created.

SQL>insert into customer values (296, 'prolay', 70000, 'manufacturer');

1 row created.

SQL>insert into customer values (355, 'sankalpa', 200000, 'wholeseller');

1 row created.

SQL>insert into customer values (459, 'pratik', 100000, 'wholeseller');

1 row created.

SQL>insert into customer values (416, 'kunal', 90000, 'retailer');



1 row created.

SQL>insert into shipment values (70,258,800,1,'kolkata','productX');

1 row created.

SQL>insert into shipment values (75,355,1200,50,'kolkata','productY');

1 row created.

SQL>insert into shipment values (80,141,600,20, 'mumbai', 'productZ');

1 row created.

SQL>insert into shipment values (85,355,1100,20,'mumbai','productZ');

1 row created.

SQL>insert into shipment values (90,459,1000,2,'mumbai','productY');

1 row created.

SQL>insert into shipment values (100,355,400,10,'lakshdweep','productY');

1 row created.

SQL>insert into shipment values (115,141,392,50,'coachin','productX');

1 row created.

SQL>insert into shipment values (150,459,999,2,'hyderabad','productZ');

1 row created.

DISPLAYING TOTAL ROWS OF TABLES:

SQL> select *from customer;

CUST_ID	CUST_NAME	ANNUAL_REV	CUST_TYPE
258	siram	560000	manufacturer
141	karim	60000	retailer
296	prolay	70000	manufacturer

355	sankalpa	200000	wholeseller
459	pratik	100000	wholeseller
416	kunal	90000	retailer

6 rows selected.

SQL> select *from truck;

TRUCK_NO	DRIVER_NAME
1	rajesh
2	rohan
10	bishnu
20	raju
50	rahul

SQL> select *from city;

CITY_NAME	POPULATION	
kolkata	500000	
mumbai	150000	
lakshdweep	50000	pune
80000	hyderabad	
1000000	coachin	
200000		

6 rows selected.

SQL> select *from shipment;

SHIPMENT_ID	CUST_ID1	WEIGHT	TRUCK_NO1	DESTINATION	SHIPMENT_NAME
-					
60	141	500	1	pune	productX
70	258	800	1	kolkata	productX
75	355	1200	50	kolkata	productY

80	141	600	20	mumbai	productZ
85	355	1100	20	mumbai	productZ
90	459	1000	2	mumbai	productY
100	355	400	10	lakshdweep	productY
115	141	392	50	coachin	productX
150	459	999	2	hyderabad	productZ

9 rows selected.

QUERIES:

Q1. What are the truck numbers of trucks that have been carrying shipments waiting over 500.

SQL> select distinct truck_no1 from shipment where 2 weight > 500;

Q2. Create an alphabetical list of name of customers with more than 80K in annual revenue. SQL> select cust_name from customer where
2 annual_rev >80000 order by cust_name;

CUST_NAME	
siram	kunal
pratik	
sankalpa	

Q3. Give names of an average monthly revenue of customers having annual revenue exceeding 50K but not more than 5 Lakhs.

SQL> select cust_name,avg(annual_rev/12) from customer where 2 (annual_rev between 50000 and 500000) group by cust_name;

CUST_NAME	AVG(ANNUAL_REV/12)	
sankalpa	16666.6667	
pratik	8333.33333	
kunal	7500	prolay
5833.33333	karim	
5000		

Q4. Give names of customers who have sent shipments to cities with names starting with 'C'.

SQL> select cust_name from customer,shipment where 2 cust_id=cust_id1 and destination like 'c%';

CUST_NAME	
	karim

Q5. What are the names of customers who have sent shipments through pune.

SQL> select cust_name from customer,shipment where 2 cust_id=cust_id1 and destination='pune';

CUST_NAME	
	karim

Q6. What are the names and the population of cities that have received shipments weighting over 800.

SQL> select city_name,population from city,shipment where 2 city_name=destination and weight >800;

CITY_NAME	POPULATION	
kolkata	500000	
mumbai	150000	mumbai
150000	hyderabad	1000000

Q7. Who are the customers having over 80K in annual revenue and have sent shipments weighing less than 900 or have sent a shipment to Mumbai.

SQL> select distinct cust_name,cust_id from customer,shipment where 2 ((cust_id=cust_id1 and weight <900) or (cust_id=cust_id1 and destination='mumbai'))and (annual_rev >80000);

CUST_NAME	CUST_ID	

sankalpa pratik 258	355 459	siram	
Q8. List cities that h	ave received shipments fo	r every customers.	
	city_name from city,shipm and destination=city_name		
CITY_NAME			
mumbai hyderabad coachin pune lakshdweep kolkata			
6 rows selected.			
Q9. How many ship	ments has customer 141 s	ent.	
SQL> select count(*)	from shipment where cus	t_id1=141;	
COUNT(*)			
3			
Q10. Which cities in	the database have the la	gest and the smallest population.	
lect max(population) fro		nere population in ect min(population) from city));	
CITY_NAME	POPULATIO	N	
hyderabad 50000	1000000	lakshdweep	
Q11. List the custon	ner who are manufacturer	s or have sent to a package to 'lakshdw	veep'.
	cust_name from customer ufacturer') or (cust_id=cus	,shipment where t_id1 and destination='lakshdweep');	
CUST_NAME			

siram

sankalpa
prolay

siram

Q12. List cities of population over 1 Lakh which have received a 600 weight packet from customer 141.					
SQL> select city_name from 2 population>100000 and c	ity,shipment where estination=city_name and weight=600 and cust_id1=141;				
CITY_NAME 	 mumbai				
Q13. Give a list of customer	all of whose shipments weight over 500.				
SQL> select distinct cust_nar 2 cust_id=cust_id1 and wei	ne from customer,shipment where ht>500;				
CUST_NAME					
sankalpa pratik	siram karim				
Q14. List the names of the a	ivers who have delivered shipment weighing over 800.				
SQL> select distinct driver_n 2 truck_no=truck_no1 and	me from truck,shipment where veight>800;				
DRIVER_NAME					
rohan raju	rahul				
Q15. Give names of the cust	omers who have 'r' at the 3 rd character of the names.				
SQL> select cust_name from	customer where cust_name like 'r%';				
CUST_NAME	<u>-</u>				

karim