Assignment1

q1.

Q-1 Create following tables and perform queries:

Order
ORD_ID
ORD_DATE
CUST_ID
TOT_AMT
DUE

Customer
CUST_ID
CUST_FNAME
CUST_LNAME
CUST_CITY
CUST_DOB

Display all customers whose last name is SHAH.

select *from customers where CUST_LNAME='Shah';

CUST_ID	CUST_FNAME	CUST_LNAME	CUST_CITY	CUST_DOB
1	Amit	Shah	Ahmedabad	12-11-1982
2	Payal	Shah	Ahmedabad	12-10-1999

2. Display order details for customers whose name starts with P.

select Orders.* from Orders

Inner Join customers

on Orders.CUST_ID =customers.CUST_ID

where customers.CUST_FNAME like 'P%';

ORD_ID	ORD_DATE	CUST_ID	TOT_AMT	DUE
ORD_ID	01-04-2013	2	500	20
108	01-04-2013	2	7000	20

3. Display all customers with their placed orders who stay in city SURAT.

select customers.*,Orders.* from customers

Inner JOIN orders on customers.CUST_ID =Orders.CUST_ID

where customers.CUST_CITY='Surat' ;

CUST_ID	CUST_FNAME	CUST_LNAME	CUST_CITY	CUST_DOB	ORD_ID	ORD_DATE	CUST_ID	TOT_AMT
3	Raj	Mehta	Surat	25-03-1985	103	01-04-2023	3	70000

4. Print all customers who have placed order more than 50000 rs.

select customers.* from customers Inner JOIN Orders on customers.CUST_ID =Orders.CUST_ID

where Orders.TOT_AMT > 50000 ;

CUST_ID	CUST_FNAME	CUST_LNAME	CUST_CITY	CUST_DOB
1	Amit	Shah	Ahmedabad	12-11-1982
3	Raj	Mehta	Surat	25-03-1985
1	Amit	Shah	Ahmedabad	12-11-1982

5. Find all orders which are left with payment due.

select *from orders where due>0.0;

ORD_ID	ORD_DATE	CUST_ID	TOT_AMT	DUE
101	01-04-2023	4	100	20
106	01-04-2013	1	500	20
107	01-04-2013	2	500	20
108	01-04-2013	2	7000	20

CUST_ID	CUST_FNAME	CUST_LNAME	CUST_CITY	CUST_DOB
1	Amit	Shah	Ahmedabad	12-11-1982
3	Raj	Mehta	Surat	25-03-1985
1	Amit	Shah	Ahmedabad	12-11-1982

6.List all customers who have paid their dues.

select customers.* from customers Inner JOIN Orders on customers.CUST_ID =Orders.CUST_ID where Orders.Due=0.0;

List all customers who have paid their dues.

7. #7.Display all orders which are placed by the customers who stay in AHMEDABAD.

SELECT Orders.*

FROM Orders

INNER JOIN Customers

ON Orders.CUST_ID = Customers.CUST_ID

WHERE Customers.CUST_CITY = 'Ahmedabad';

ORD_ID	ORD_DATE	CUST_ID	TOT_AMT	DUE
102	01-04-2023	1	60000	0
104	12-12-2023	1	110000	0

106	01-04-2013	1	500	20
107	01-04-2013	2	500	20
108	01-04-2013	2	7000	20

8.List out all customer whose order amount is due and live in BARODA.

```
SELECT Customers.*
FROM Customers
INNER JOIN Orders
ON Customers.CUST_ID = Orders.CUST_ID
WHERE Orders.DUE > 0
AND Customers.CUST_CITY = 'Baroda';
```

CUST_ID	CUST_FNAME	CUST_LNAME	CUST_CITY	CUST_DOB
4	Ashnit	Bagga	Baroda	31-10-1999

#9.Display all customers who have ordered between 5000 and 10000 rs.

```
SELECT customers.*
FROM customers
INNER JOIN Orders
ON customers.CUST_ID = Orders.CUST_ID
WHERE Orders.TOT_AMT BETWEEN 5000 AND 10000;
```

CUST_ID	CUST_FNAME	CUST_LNAME	CUST_CITY	CUST_DOB
2	Payal	Shah	Ahmedabad	12-10-1999

10. List all customers who haven’t placed order less than 1 lakh rs.need to check

```
SELECT customers.*
FROM customers
INNER JOIN Orders
ON customers.CUST_ID = Orders.CUST_ID
WHERE Orders.TOT_AMT > 100000;
```

CUST_ID	CUST_FNAME	CUST_LNAME	CUST_CITY	CUST_DOB
1	Amit	Shah	Ahmedabad	12-11-1982

11. #11 Display all customers who have born before year 1970.

```
SELECT * FROM customers WHERE CUST_DOB < '1970-01-01';
```

CUST_ID	CUST_FNAME	CUST_LNAME	CUST_CITY	CUST_DOB
5	Peter	Smith	Ahmedabad	01-11-1960

#12List out all customers who have birthday in this month.

```
SELECT *
```

FROM customers

WHERE MONTH(CUST_DOB) = MONTH(CURDATE());

CUST_ID	CUST_FNAME	CUST_LNAME	CUST_CITY	CUST_DOB
1	Amit	Shah	Ahmedabad	12-11-1982
5	Peter	Smith	Ahmedabad	01-11-1960

#13 Display all those orders which are placed in 2015 with date format DD/Month/YYYY.

```
SELECT ORD_ID,
    DATE_FORMAT(ORD_DATE, '%d/%M/%Y') AS formatted_date,
    CUST_ID,
    TOT_AMT,
    DUE
FROM orderss
WHERE YEAR(ORD_DATE) = 2015;
```

ORD_ID	formatted_date	CUST_ID	TOT_AMT	DUE
110	15-Jul-15	1	250	25

#14If credit days are 60 days then find out the due date for each order.

SELECT ORD_ID, ORD_DATE, DATE_ADD(ORD_DATE, INTERVAL 60 DAY) AS DUE_DATE

FROM orderss;

CUST_ID	CUST_FNAME	CUST_LNAME	CUST_CITY	CUST_DOB
1	Amit	Shah	Ahmedabad	12-11-1982
5	Peter	Smith	Ahmedabad	01-11-1960

15. #15. Display the customer with their respective age.

SELECT CUST_FNAME,

CUST_LNAME,

CUST_CITY,

CUST_DOB,

YEAR(CURDATE()) - YEAR(CUST_DOB) - (DATE_FORMAT(CURDATE(), '%m%d') < DATE_FORMAT(CUST_DOB, '%m%d')) AS age

FROM customers;

CUST_FNAME	CUST_LNAME	CUST_CITY	CUST_DOB	age
Amit	Shah	Ahmedabad	12-11-1982	42
Payal	Shah	Ahmedabad	12-10-1999	25
Raj	Mehta	Surat	25-03-1985	39
Ashnit	Bagga	Baroda	31-10-1999	25
Peter	Smith	Ahmedabad	01-11-1960	64
Ashnit	Bagga	JAMNAGAR	31-10-1999	25

16. #16 Find out the total customers from JAMNAGAR.

SELECT COUNT(*) AS total_customers

FROM customers

WHERE CUST_CITY = 'JAMNAGAR';

total_customers
1

#17) Find out the minimum order given by customer read by user.

SELECT CUST_ID, MIN(TOT_AMT) AS minimum_order_amount

FROM orderss

GROUP BY CUST_ID;

CUST_ID	minimum_order_amount
1	5000

#18 Find out the maximum number of orders given by any customer.

SELECT CUST_ID, COUNT(ORD_ID) AS order_count

FROM orderss

GROUP BY CUST_ID

ORDER BY order_count DESC

LIMIT 1;

CUST_ID	order_count
1	3

19. #19 Calculate the average amount for each customer.

SELECT CUST_ID, AVG(TOT_AMT) AS average_amount

FROM orders

GROUP BY CUST_ID;

desc orders;

CUST_ID	average_amount
1	42687.5

2	3750
3	70000
4	100

.

#20. Find out the total number of orders placed in year 2013.

SELECT COUNT(ORD_ID) AS total_orders

FROM orders

WHERE YEAR(ORD_DATE) = 2013;

total_orders
3

Assignment 2

Q-1 Create tables STUDENT and COURSE with given column names and data types using mentioned size and constraints. Write down the SQL statements to create table and insert records. Display results for following queries:

STUDENT	COURSE
stud_id int(5) PK, fname varchar (15) NOT NULL, lname varchar (15), city varchar (15), crs_id int(5) FK	crs_id int(5) PK, crs_nm varchar (15) NOT NULL, duration int(2) NOT NULL

1Display detail of students from city SURAT.

select * from students where city='surat';

stud_id	fname	lname	city	cid
101	Pavan	Shah	Surat	1
104	Nina	Mehta	Surat	1

2List down all courses and their duration.

select crs_nm, duration from coursep;

crs_nm	duration
DCA	12
BCA	36
MTech	24

3Display details of those students whose first name starts with ‘P’.

select * from students where fname like'P%';

stud_id	fname	lname	city	cid
101	Pavan	Shah	Surat	1
103	Paul	Joshi	Baroda	3
105	Peter	Smith	Mumbai	2

4.Display list of students who opted for DCA course.

SELECT students.*

FROM students

INNER JOIN coursep ON students.cid = coursep.cid

WHERE coursep.crs_nm = 'DCA';

stud_id	fname	lname	city	cid
101	Pavan	Shah	Surat	1
104	Nina	Mehta	Surat	1

#5Display full name of students and city they belong to.

select CONCAT(fname,' ',lname) AS FULL_NAME , CITY FROM students;

FULL_NAME	CITY
Pavan Shah	Surat
Rina Patel	Ahmedabad
Paul Joshi	Baroda
Nina Mehta	Surat
Peter Smith	Mumbai

6 Display courses having duration more than 10 months.

SELECT * FROM coursep WHERE duration > 10;

cid	crs_nm	duration
1	DCA	12
2	BCA	36
3	MTech	24

7. Display student id as ROLLNO along with other details

SELECT stud_id AS ROLLNO, fname, lname, city, cid FROM students;

ROLLNO	fname	lname	city	cid
101	Pavan	Shah	Surat	1
102	Rina	Patel	Ahmedabad	2
103	Paul	Joshi	Baroda	3
104	Nina	Mehta	Surat	1
105	Peter	Smith	Mumbai	2

8. 8 Display student name, course name and their city.

SELECT CONCAT(students.fname, ' ', students.lname) AS FullName, coursep.crs_nm, students.city

FROM students

INNER JOIN coursep ON students.cid = coursep.cid;

FullName	crs_nm	city
Pavan Shah	DCA	Surat
Nina Mehta	DCA	Surat
Rina Patel	BCA	Ahmedabad
Peter Smith	BCA	Mumbai

Paul Joshi	MTech	Baroda

9.Display total number of students from course MTech.

```
SELECT COUNT(*) AS TotalStudents
FROM students
INNER JOIN coursep ON students.cid = coursep.cid
WHERE coursep.crs_nm = 'MTech';
```

TotalStudents
1

10) Calculate student percentage and display as Result.

```
ALTER TABLE students ADD total_marks INT;
ALTER TABLE students ADD obtained_marks INT;
UPDATE students SET total_marks = 500, obtained_marks = 450 WHERE stud_id = 1;
UPDATE students SET total_marks = 500, obtained_marks = 380 WHERE stud_id = 2;
UPDATE students SET total_marks = 500, obtained_marks = 420 WHERE stud_id = 3;
SELECT stud_id,
    fname,
    lname,
    city,
    (obtained_marks / total_marks) * 100 AS percentage
FROM students;
```

stud_id	fname	lname	city	percentage
101	Pavan	Shah	Surat	NULL
102	Rina	Patel	Ahmedabad	NULL
103	Paul	Joshi	Baroda	NULL
104	Nina	Mehta	Surat	NULL
105	Peter	Smith	Mumbai	NULL

Q-2 Create table EMPLOYEE and DESIGNATION with given column names and data using mentioned size and constraints. Write down the SQL statements to create table and insert records. Display results for following queries:

EMPLOYEE	DESIGNATION
emp_id int(5) PK, ename varchar (25) NOT NULL, dob date, city varchar (12), designation int(2) FK,	desg_id int(5) PK, desg_nm varchar (15) NOT NULL Basic_salary float(8,2)

1) Display details of employee(s) from AHMEDABAD city.
SELECT * FROM EMPLOYEE WHERE city = 'Ahmedabad';

emp_id	ename	dob	city	designation	department
101	Rina Patel	15-05-1985	Ahmedabad	1	HR
105	Peter Smith	01-11-1985	Ahmedabad	1	HR

#2.Display employee(s) name and their salary.

SELECT e.ename, d.Basic_salary

FROM EMPLOYEE e

INNER JOIN DESIGNATION d ON e.designation = d.desg_id;

ename	Basic_salary
Rina Patel	90000
Kiran Shah	60000
Pavan Joshi	70000
Nina Mehta	60000
Peter Smith	90000
Raj Mehta	95000

#3Add new columns DEPARTMENT to EMPLOYEE table to store department name.

ALTER TABLE EMPLOYEE ADD COLUMN department VARCHAR(15);

desc EMPLOYEE;

stud_id	fname	lname	city	percentage
101	Pavan	Shah	Surat	NULL

102	Rina	Patel	Ahmedabad	NULL
103	Paul	Joshi	Baroda	NULL
104	Nina	Mehta	Surat	NULL
105	Peter	Smith	Mumbai	NULL

4. Display employee detail along with newly added column Department data.

UPDATE EMPLOYEE SET department = 'HR' WHERE emp_id IN (101, 105);

UPDATE EMPLOYEE SET department = 'IT' WHERE emp_id IN (102, 103);

UPDATE EMPLOYEE SET department = 'Finance' WHERE emp_id = 104;

emp_id	ename	dob	city	designation	department
101	Rina Patel	15-05-1985	Ahmedabad	1	HR
102	Kiran Shah	22-03-1990	Mumbai	2	IT
103	Pavan Joshi	10-12-1988	Baroda	3	IT
104	Nina Mehta	19-07-1992	Surat	2	Finance
105	Peter Smith	01-11-1985	Ahmedabad	1	HR
106	Raj Mehta	25-08-1987	Surat	4	SALES

5. Display all designation data and its basic salary.

SELECT * FROM DESIGNATION;

desg_id	desg_nm	Basic_salary
1	Manager	90000
2	Developer	60000
3	Analyst	70000

4	Manager	95000

6) Display employee(s) name, age along with their designation.

```
SELECT e.ename AS Employee_Name,
    FLOOR(DATEDIFF(CURDATE(), e.dob) / 365) AS Age,
    d.desg_nm AS Designation
FROM EMPLOYEE e
JOIN DESIGNATION d ON e.designation = d.desg_id;
```

Employee_Name	Age	Designation
Rina Patel	39	Manager
Kiran Shah	34	Developer
Pavan Joshi	35	Analyst
Nina Mehta	32	Developer
Peter Smith	39	Manager
Raj Mehta	37	Manager

7. Display employees from HR department.

emp_id	ename	dob	city	designation	department
101	Rina Patel	15-05-1985	Ahmedabad	1	HR
105	Peter Smith	01-11-1985	Ahmedabad	1	HR

```
SELECT * FROM EMPLOYEE WHERE department = 'HR';
```

#8) Display only those employees whose salary is higher than 80000.

```
SELECT e.*
FROM EMPLOYEE e
INNER JOIN DESIGNATION d ON e.designation = d.desg_id
WHERE d.Basic_salary > 80000;
```

emp_id	ename	dob	city	designation	department
101	Rina Patel	15-05-1985	Ahmedabad	1	HR
105	Peter Smith	01-11-1985	Ahmedabad	1	HR
106	Raj Mehta	25-08-1987	Surat	4	SALES

9. Display Manager(s) from SALES department.

```
SELECT e.*
FROM EMPLOYEE e
INNER JOIN DESIGNATION d ON e.designation = d.desg_id
```

emp_id	ename	dob	city	designation	department
106	Raj Mehta	25-08-1987	Surat	4	SALES

```
WHERE e.department = 'SALES' AND d.desg_nm = 'Manager';
```

emp_id	ename	dob	city	designation	department
106	Raj Mehta	25-08-1987	Surat	4	SALES

#10) Display employee(s) name, designation and their Basic salary.

SELECT e.ename, d.desg_nm, d.Basic_salary

FROM EMPLOYEE e

INNER JOIN DESIGNATION d ON e.designation = d.desg_id;

ORD_ID	formatted_date	CUST_ID	TOT_AMT	DUE
110	15/July/2015	1	250.00	25.00

#Q3

Q-3 Create tables ORDER and PRODUCT with given column names and data using mentioned size and constraints. Write down the SQL statements to create table and insert records. Display results for following queries:

ORDER	PRODUCT
Ord_id int(5) PK, Ord_dt Date, Cust_nm varchar (15) NOT NULL, Cust_city varchar (15) NOT NULL, prod_id int(5) FK, qty int(5,2)	Prod_id int(5) PK, prod_nm varchar2 (15) NOT NULL, prod_rate float(7,2) NOT NULL

1. 1 Display details of products having price more than 1000 rs.
   SELECT * FROM PRODUCT WHERE prod_rate > 1000.00;

prod_id	prod_nm	prod_rate
1	Laptop	45000
2	Mouse	1500
3	Keyboard	2000

2. #2 Display all customers and their city.

SELECT cust_nm, cust_city FROM ORDERSONE;

cust_nm	cust_city
Raj Mehta	Ahmedabad
Anita Sharma	Bhavnagar
Pavan Joshi	Ahmedabad
Nina Mehta	Surat
Peter Smith	Ahmedabad

3. #3 Display customer name, their city, product name and its quantity.

```
SELECT o.cust_nm, o.cust_city, p.prod_nm, o.qty
FROM ORDERSONE o
INNER JOIN PRODUCT p ON o.prod_id = p.prod_id;
```

cust_nm	cust_city	prod_nm	qty
Raj Mehta	Ahmedabad	Laptop	1
Nina Mehta	Surat	Laptop	0.5
Anita Sharma	Bhavnagar	Mouse	2
Peter Smith	Ahmedabad	Mouse	3
Pavan Joshi	Ahmedabad	Keyboard	1.5

#4) Display Order date and amount under the each order.

```
SELECT ord_dt, (p.prod_rate * o.qty) AS amount
FROM ORDERSONE o
INNER JOIN PRODUCT p ON o.prod_id = p.prod_id;
```

ord_dt	amount
15-01-2023	45000
22-04-2023	22500
10-02-2023	3000
30-05-2023	4500
05-03-2023	3000

5. #5) Display customers from city BHAVNAGAR.

SELECT * FROM ORDERSONE WHERE cust_city = 'Bhavnagar';

#6) Display total number of customers from each city.

SELECT cust_city, COUNT(*) AS total_customers

FROM ORDERSONE

GROUP BY cust_city;

ord_id	ord_dt	cust_nm	cust_city	prod_id	qty
102	10-02-2023	Anita Sharma	Bhavnagar	2	2

7. #7 Calculate total amount of order for each customer.

SELECT o.cust_nm, SUM(p.prod_rate * o.qty) AS total_amount

FROM ORDERSONE o

INNER JOIN PRODUCT p ON o.prod_id = p.prod_id

GROUP BY o.cust_nm;

#8) Display maximum sale in each of the month.

```
SELECT MONTH(ord_dt) AS month, MAX(p.prod_rate * o.qty) AS max_sale
FROM ORDERSONE o
INNER JOIN PRODUCT p ON o.prod_id = p.prod_id
GROUP BY MONTH(ord_dt);
```

month	max_sale
1	45000
4	22500
2	3000
5	4500
3	3000

#9 Display customer name, product name, quantity and calculated amount.

```
SELECT o.cust_nm, p.prod_nm, o.qty, (p.prod_rate * o.qty) AS amount
FROM ORDERSONE o
INNER JOIN PRODUCT p ON o.prod_id = p.prod_id;
```

cust_nm	prod_nm	qty	amount
Raj Mehta	Laptop	1	45000
Nina Mehta	Laptop	0.5	22500
Anita Sharma	Mouse	2	3000
Peter Smith	Mouse	3	4500
Pavan Joshi	Keyboard	1.5	3000

#10Display Order id, date, customer name, product name, quantity purchased under the order andtotal amount.

```
SELECT o.ord_id, o.ord_dt, o.cust_nm, p.prod_nm, o.qty, (p.prod_rate * o.qty) AS total_amount
FROM ORDERSONE o
INNER JOIN PRODUCT p ON o.prod_id = p.prod_id;
```

ord_id	ord_dt	cust_nm	prod_nm	qty	total_amount
101	15-01-2023	Raj Mehta	Laptop	1	45000
104	22-04-2023	Nina Mehta	Laptop	0.5	22500
102	10-02-2023	Anita Sharma	Mouse	2	3000
105	30-05-2023	Peter Smith	Mouse	3	4500
103	05-03-2023	Pavan Joshi	Keyboard	1.5	3000