# 20BCS009 ANZAL HUSAIN ABIDI
# DBMS ASSIGNMENT-8

```
# Q1.
gate_questions> create table Passenger (
        pid int not null,
        pname varchar(10) not null,
        age int not null
);
gate_questions> insert into Passenger values (0, 'Sachin', 65);
gate_questions> insert into Passenger values (1, 'Rahul', 66);
gate_questions> insert into Passenger values (2, 'Sourav', 67);
gate_questions> insert into Passenger values (3, 'Anil', 69);

gate_questions> create table Reservation (
        pid int not null,
        class varchar(10) not null,
        tid int not null
);
gate_questions> insert into Reservation values (0, 'AC', 8200);
gate_questions> insert into Reservation values (1, 'AC', 8201);
gate_questions> insert into Reservation values (2, 'SC', 8201);
gate_questions> insert into Reservation values (5, 'AC', 8203);
gate_questions> insert into Reservation values (1, 'SC', 8204);
gate_questions> insert into Reservation values (3, 'AC', 8202);


gate_questions>  SELECT pid FROM Reservation
        WHERE class = ‘AC’ AND EXISTS (
                SELECT * FROM Passenger
                        WHERE age > 65 AND
                        Passenger. pid = Reservation.pid
);
Ans: 2 (1 and 3)


# Q2.
gate_questions> create table Suppliers(
  sid int,
  sname varchar(255),
  city VARCHAR(255),
  street VARCHAR(255)
);
gate_questions> INSERT INTO Suppliers VALUES(1,"Amit","Bangalore","Bellandur");
gate_questions> INSERT INTO Suppliers VALUES(2,"Aadil","Kolkata","New Town");
gate_questions> INSERT INTO Suppliers VALUES(3,"Faizan","Mumbai","Dadar");
gate_questions> INSERT INTO Suppliers VALUES(4,"Jatin","Delhi","Lodhi Colony");

gate_questions> create table Parts(
        pid int,
        pname VARCHAR(255),
        color VARCHAR(255)
);
```

```
gate_questions> INSERT INTO Parts VALUES(1,"Sunmica","White");
gate_questions> INSERT INTO Parts VALUES(2,"Sofa Cover","Blue");
gate_questions> INSERT INTO Parts VALUES(3,"Bedsheet","Green");
gate_questions> INSERT INTO Parts VALUES(4,"Curtains","Red");

gate_questions> create table Catalog(
        sid int,
        pid int,
        cost DECIMAL(10, 2)
);
gate_questions> INSERT INTO Catalog VALUES(1,3,1200);
gate_questions> INSERT INTO Catalog VALUES(4,1,500);
gate_questions> INSERT INTO Catalog VALUES(2,3,500);
gate_questions> INSERT INTO Catalog VALUES(3,4,900);

SELECT S.sname FROM Suppliers S
        WHERE S.sid NOT IN (
                SELECT C.sid FROM Catalog C
                        WHERE C.pid NOT IN (
                                SELECT P.pid FROM Parts P
                                        WHERE P.color<> 'blue')
);

+--------+
| sname  |
+--------+
| Amit   |
| Aadil  |
| Faizan |
| Jatin  |
+--------+


gate_questions> SELECT * FROM Suppliers;
+------+--------+-----------+--------------+
| sid  | sname  | city      | street       |
+------+--------+-----------+--------------+
|   1  |  Amit  | Bangalore | Bellandur    |
|   2  | Aadil  | Kolkata   | New Town     |
|   3  | Faizan | Mumbai    | Dadar        |
|   4  | Jatin  | Delhi     | Lodhi Colony |
+------+--------+-----------+--------------+

gate_questions> SELECT * FROM Parts;
+------+------------+-------+
| pid  | pname      | color |
+------+------------+-------+
|  1   | Sunmica    | White |
|  2   | Sofa Cover | Blue  |
|  3   | Bedsheet   | Green |
|  4   | Curtains   | Red   |
+------+------------+-------+

gate_questions> SELECT * FROM Catalog;
+------+------+------+
```

```
| sid  | pid  | cost |
+------+------+------+
|  1   |  3   | 1200 |
|  4   |  1   | 500  |
|  2   |  3   | 500  |
|  3   |  4   | 900  |
+------+------+------+
```

```
# Q3.
gate_questions> create table Employee (
        name VARCHAR(255),
        sex VARCHAR(10),
        salary int,
        deptName VARCHAR(255)
);

gate_questions> INSERT INTO Employee
        VALUES("Sudarshan","M",15000,"Mathematics");
gate_questions> INSERT INTO Employee
        VALUES("Anzal","M",17000,"Computer Science");
gate_questions> INSERT INTO Employee
        VALUES("Kanika","F",12000,"Arts");
gate_questions> INSERT INTO Employee
        VALUES("Aftab","M",13000,"Electrical");
gate_questions> Select deptName From Employee
        Where sex = 'M' Group by deptName
                Having avg(salary) > (select avg (salary)
        from Employee);
+------------------+
| deptName         |
+------------------+
| Computer Science |
| Mathematics      |
+------------------+

SELECT AVG(salary) FROM Employee WHERE sex="M";
+-------------+
| AVG(salary) |
+-------------+
| 15000.0000  |
+-------------+

SELECT AVG(salary) FROM Employee;
+-------------+
| AVG(salary) |
+-------------+
| 14250.0000  |
+-------------+


# Q4.
gate_questions> create table book (
```

```
        title VARCHAR(255),
        price int
);
gate_questions> SELECT title FROM book as B
        WHERE (SELECT COUNT(*) FROM book as T
WHERE T.price > B.price) < 5;
+-------+
| title |
+-------+
| C     |
| D     |
| E     |
| F     |
| G     |
+-------+


# Q5.

gate_questions> CREATE TABLE enrolled(
        student VARCHAR(20),
        course VARCHAR(20)
);
gate_questions> CREATE TABLE paid(
        student VARCHAR(20),
        amount INT,PRIMARY KEY(student)
);
gate_questions> INSERT INTO enrolled VALUES("xyz","CSE");
gate_questions> INSERT INTO enrolled VALUES("abc","ECE");
gate_questions> INSERT INTO enrolled VALUES("pqr","CSE");
gate_questions> INSERT INTO paid VALUES("abc",20000);
gate_questions> INSERT INTO paid VALUES("xyz",10000);
gate_questions> INSERT INTO paid VALUES("rst",10000);
gate_questions> SELECT * FROM paid;
+---------+--------+
| student | amount |
+---------+--------+
| abc           | 20000  |
| rst   | 10000  |
| xyz   | 10000  |
+---------+--------+

gate_questions> SELECT * FROM enrolled;
+---------+--------+
| student | course |
+---------+--------+
| xyz     | CSE    |
| abc     | ECE    |
| pqr     | CSE    |
+---------+--------+

gate_questions> SELECT student FROM enrolled
        WHERE student in (SELECT student FROM paid);
+---------+
| student |
```

```
+---------+
| xyz     |
| abc     |
+---------+

gate_questions> SELECT student FROM paid
        WHERE student in (SELECT student FROM enrolled);
+---------+
| student |
+---------+
| xyz     |
| abc     |
+---------+

gate_questions> SELECT E.student FROM enrolled E,paid P
        WHERE E.student = P.student;
+---------+
| student |
+---------+
| xyz     |
| abc     |
+---------+









gate_questions> SELECT student FROM paid WHERE
        EXISTS (SELECT * FROM enrolled
                WHERE enrolled.student = paid.student);
+---------+
| student |
+---------+
| xyz     |
| abc     |
+---------+


# Q6.
gate_questions> CREATE TABLE account(
        customer VARCHAR(20),
        balance INT,
        PRIMARY KEY(customer)
);
gate_questions> INSERT INTO account VALUES("abc",4000);
gate_questions> INSERT INTO account VALUES("def",3000);
gate_questions> INSERT INTO account VALUES("ghi",2000);
gate_questions> INSERT INTO account VALUES("xyz",1000);
gate_questions> SELECT A.customer,count(B.customer) from account A, account B
        WHERE A.balance<=B.balance
GROUP BY A.customer;
+----------+-------------------+
| customer | count(B.customer) |
```

```
+----------+-------------------+
| xyz      |    4              |
| ghi      |    3              |
| def      |    2              |
| abc      |    1              |
+----------+-------------------+

gate_questions> SELECT A.customer,1+count(B.customer) from account A, account B
        WHERE A.balance<B.balance
        GROUP BY A.customer;
+----------+---------------------+
| customer | 1+count(B.customer) |
+----------+---------------------+
| xyz      |    4                |
| ghi      |    3                |
| def      |    2                |
+----------+---------------------+
```

```
# Q7.
gate_questions> CREATE TABLE Loan_Records(
        Borrower VARCHAR(30),
        Bank_Manager VARCHAR(30),
        Loan_Amount INT
);
gate_questions> INSERT INTO Loan_Records
        VALUES("Ramesh","Sunderajan",10000);
gate_questions> INSERT INTO Loan_Records
        VALUES("Mahesh","Sunderajan",7000);
gate_questions> INSERT INTO Loan_Records
        VALUES("Suresh","Ramgopal",5000);
gate_questions> SELECT Count(*) FROM
        ( (SELECT Borrower, Bank_Manager FROM Loan_Records)
        AS S
        NATURAL JOIN (SELECT Bank_Manager,
        Loan_Amount FROM Loan_Records) AS T );
+----------+
```

```
| Count(*) |
+----------+
|    5     |
+----------+
```

# Q8.

```
gate_questions> create table employee(
        empId int,
        name VARCHAR(255),
        department VARCHAR(255),
        salary int
);
gate_questions> INSERT INTO employees VALUES(1001,"Sudarshan",1,12000);
gate_questions> INSERT INTO employees VALUES(1002,"Anzal",3,15000);
gate_questions> INSERT INTO employees VALUES(1003,"Naveen",5,16000);
gate_questions> INSERT INTO employees VALUES(1004,"Ijlal",4,19000);
gate_questions> SELECT * FROM employees;
+-------+-----------+------------+--------+
| empId | name      | department | salary |
+-------+-----------+------------+--------+
| 1001  | Sudarshan |    1       | 12000  |
| 1002  | Anzal     |    3       | 15000  |
| 1003  | Naveen    |    5       | 16000  |
| 1004  | Ijlal     |    4       | 19000  |
+-------+-----------+------------+--------+

gate_questions> Select e.empId From employees e
        Where not exists
        (Select * From employees s
                where s.department = 5
                and
                s.salary >=e.salary
);
+-------+
| empId |
+-------+
| 1004  |
+-------+

gate_questions> Select e.empId From employees e
        Where e.salary > Any (Select distinct salary From employees s
                Where s.department = 5
);
+-------+
| empId |
+-------+
| 1004  |
+-------+
```

# Q9.

r and s have the same number of tuples.

# Q10.

```
gate_questions> create table Student(
        Roll_No int,
        Student_Name VARCHAR(255)
);
gate_questions> create table Performance (
        Roll_No int,
        Course VARCHAR(255),
        Marks int
);
gate_questions> insert into Student VALUES (1, 'Raj');
gate_questions> insert into Student VALUES (2, 'Rohit');
gate_questions> insert into Student VALUES (3, 'Raj');

gate_questions> insert into Performance VALUES(1, 'Math', 80);
gate_questions> insert into Performance VALUES(1, 'English', 70);
gate_questions> insert into Performance VALUES(2, 'Math', 75);
gate_questions> insert into Performance VALUES(3, 'English', 80);
gate_questions> insert into Performance VALUES(2, 'Physics', 65);
gate_questions> insert into Performance VALUES(3, 'Math', 80);

gate_questions> SELECT S.Student_Name, sum(P.Marks) FROM Student S, Performance
P
        WHERE S.Roll_No =P.Roll_No
        GROUP BY S.Student_Name;
```

Ans: 2

| | Student_Name | `sum(P.Marks)` |
|---|---|---|
| 1 | Raj | 310 |
| 2 | Rohit | 140 |

```
# Q11.
gate_questions> create table Cinema (
  theater VARCHAR(255),
  address VARCHAR(255),
  capacity int
);
Ans: SELECT P1.address FROM Cinema P1 where P1.capacity > ALL (select
P2.capacity from Cinema P2);
```