# SP_Exam_2_DS-423 (MDTS 4114)


## Srijan Kundu

### M.Sc. Data Science


**Date: Dec 02, 2022**

---

## Question:

**Kindly adhere to the given deadline. Late submissions will be penalized. All code and the corresponding output can be included either as screenshots or text of the command line (black screen). Submit a PDF file or a Word file.**
**Do not simply copy from your friends. You will not learn anything. Attempt the questions with due diligence and honesty.**

*Create the following tables:*

*Employee (Id: DATA TYPE = VARCHAR; SIZE = 5; PRIMARY KEY, Name: DATA TYPE = VARCHAR; SIZE = 50,*
*Salary: DATA TYPE = NUMBER; SIZE = 6)*

*Department (Id: DATA TYPE = VARCHAR; SIZE = 5; PRIMARY KEY, Name: DATA TYPE = VARCHAR; SIZE = 5,*
*Manager_Id: DATA TYPE = VARCHAR; SIZE = 5; FOREIGN KEY DEPENDS ON Id of Employee, Floor_No: DATA TYPE = NUMBER; SIZE = 10)*

*Works (Eid: DATA TYPE = VARCHAR; SIZE = 5; FOREIGN KEY DEPENDS ON Id of Employee, Did: DATA TYPE = VARCHAR; SIZE = 5; FOREIGN KEY DEPENDS ON Id of Department; Eid and Did together make up the PRIMARY KEY)*
***Contents of tables :***

SELECT * FROM Employee;

| ID | NAME | SALARY |
|---|---|---|
| E001 | Dipshikha | 40000 |
| E002 | Nayana | 12000 |
| E003 | Ayan | 55000 |

E004 Rohit 20000
E005 Aryan 48000
E006 Jit 10000
E007 Arman 13500
E008 Pritam 45000
E009 Jyothi 25000

SELECT * FROM Department;

| ID | NAME | MANAGER_Id | FLOOR_NO |
|---|---|---|---|
| D001 | HR | E003 | 2 |
| D002 | BPO | E008 | 1 |
| D003 | FIN | E005 | 3 |
| D004 | SALES | E001 | 4 |

SELECT * FROM Works;

| EID | DID |
|---|---|
| E001 | D004 |
| E002 | D004 |
| E003 | D001 |
| E004 | D001 |
| E005 | D003 |
| E006 | D004 |
| E007 | D002 |
| E008 | D002 |
| E009 | D003 |

9 rows selected.

Write SQL statements to resolve the following queries:
a) Find the number of employees receiving a salary more than 40000
b) Find the number of employees working in the HR department
c) Display the following details of employees: Name of employee, Salary received and Department she is working for
d) Find the name and ID of the manager who receives the lowest salary
e) Display the name and per-day salary of the employees
f) Show the schema of the Works table

g) Update the floor number of the SALES department to 40
h) Add a new column called Date_Of_Birth to the Employee table
i) Delete all records from the Works table for Department 1
j) Remove all the three tables completely from your working environment

---

# Answer:

```
--table creation
CREATE TABLE employee(id VARCHAR(5) PRIMARY KEY,
                                        name VARCHAR(50),
                                        salary NUMBER(6));

CREATE TABLE department(id VARCHAR(5) PRIMARY KEY,
                                            name VARCHAR(5),
                                            manager_id VARCHAR(5) REFERENCES
employee(id),
                                            floor_no NUMBER(10));

CREATE TABLE works(eid VARCHAR(5) REFERENCES employee(id),
                                    did VARCHAR(5) REFERENCES department(id),
                                    PRIMARY KEY(eid, did));
```

```
SQL> CREATE TABLE employee(id VARCHAR(5) PRIMARY KEY,   name VARCHAR(50),   salary NUM
BER(6));

Table created.

SQL> CREATE TABLE department(id VARCHAR(5) PRIMARY KEY, name VARCHAR(5), manager_id VA
RCHAR(5) REFERENCES employee(id), floor_no NUMBER(10));

Table created.

SQL> CREATE TABLE works(eid VARCHAR(5) REFERENCES employee(id),   did VARCHAR(5) REFER
ENCES department(id), PRIMARY KEY(eid, did));

Table created.
```

```
--data input
--employee table
INSERT INTO employee VALUES('E001',
                                            'Dipshikha',
                                            40000);
INSERT INTO employee VALUES('E002',
                                            'Nayanaa',
                                            12000);
INSERT INTO employee VALUES('E003',
                                            'Ayan',
                                            55000);
```

```
INSERT INTO employee VALUES('E004',
                                    'Rohit',
                                    20000);
INSERT INTO employee VALUES('E005',
                                    'Aryan',
                                    48000);
INSERT INTO employee VALUES('E006',
                                    'Jit',
                                    10000);
INSERT INTO employee VALUES('E007',
                                    'Arman',
                                    13500);
INSERT INTO employee VALUES('E008',
                                    'Pritam',
                                    45000);
INSERT INTO employee VALUES('E009',
                                    'Jyothi',
                                    25000);
```

```
SQL> INSERT INTO employee VALUES('E001',   'Dipshikha',   40000);

1 row created.

SQL> INSERT INTO employee VALUES('E002',   'Nayanaa',   12000);

1 row created.

SQL> INSERT INTO employee VALUES('E003',   'Ayan',   55000);

1 row created.

SQL> INSERT INTO employee VALUES('E004',   'Rohit',   20000);

1 row created.

SQL> INSERT INTO employee VALUES('E005',   'Aryan',   48000);

1 row created.

SQL> INSERT INTO employee VALUES('E006',   'Jit',   10000);

1 row created.

SQL> INSERT INTO employee VALUES('E007',   'Arman',   13500);

1 row created.

SQL> INSERT INTO employee VALUES('E008',   'Pritam',   45000);

1 row created.

SQL> INSERT INTO employee VALUES('E009',   'Jyothi',   25000);

1 row created.

SQL>
```

```sql
--department table
INSERT INTO department VALUES('D001',
                                                    'HR',
                                                    'E003',
                                                    2);
INSERT INTO department VALUES('D002',
                                                    'BPO',
                                                    'E008',
                                                    1);
INSERT INTO department VALUES('D003',
                                                    'FIN',
                                                    'E005',
                                                    3);
INSERT INTO department VALUES('D004',
                                                    'SALES',
                                                    'E001',
                                                    4);
```

```
SQL> INSERT INTO department VALUES('D001', 'HR', 'E003', 2);

1 row created.

SQL> INSERT INTO department VALUES('D002', 'BPO', 'E008', 1);

1 row created.

SQL> INSERT INTO department VALUES('D003', 'FIN', 'E005', 3);

1 row created.

SQL> INSERT INTO department VALUES('D004', 'SALES', 'E001', 4);

1 row created.

SQL>
```

```sql
--work table
INSERT INTO works VALUES('E001', 'D004');
INSERT INTO works VALUES('E002', 'D004');
INSERT INTO works VALUES('E003', 'D001');
INSERT INTO works VALUES('E004', 'D001');
INSERT INTO works VALUES('E005', 'D003');
INSERT INTO works VALUES('E006', 'D004');
INSERT INTO works VALUES('E007', 'D002');
INSERT INTO works VALUES('E008', 'D002');
INSERT INTO works VALUES('E009', 'D003');
```

```
SQL> INSERT INTO works VALUES('E001', 'D004');

1 row created.

SQL> INSERT INTO works VALUES('E002', 'D004');

1 row created.

SQL> INSERT INTO works VALUES('E003', 'D001');

1 row created.

SQL> INSERT INTO works VALUES('E004', 'D001');

1 row created.

SQL> INSERT INTO works VALUES('E005', 'D003');

1 row created.

SQL> INSERT INTO works VALUES('E006', 'D004');

1 row created.

SQL> INSERT INTO works VALUES('E007', 'D002');

1 row created.

SQL> INSERT INTO works VALUES('E008', 'D002');

1 row created.

SQL> INSERT INTO works VALUES('E009', 'D003');

1 row created.

SQL>
```

```sql
--question(a)
SELECT COUNT(*) FROM employee WHERE salary > 40000;
```

```
SQL> SELECT COUNT(*) FROM employee WHERE salary > 40000;

  COUNT(*)
----------
         3
```

```sql
--question(b)
SELECT COUNT(*) FROM works WHERE did = (SELECT id FROM department WHERE name =
'HR');
```

```
SQL> SELECT COUNT(*) FROM works WHERE did = (SELECT id FROM department WHERE name = 'H
R');

  COUNT(*)
----------
         2
```

```sql
--question(c)
SELECT id, name, salary FROM employee (SELECT )
```

```sql
--question(d)
SELECT name, id FROM employee WHERE salary = (SELECT MIN(salary) FROM employee
AND id <>(SELECT manger_id FROM department));
```

```sql
--question(e)
SELECT name, (salary/30) AS PER_DAY_SALARY FROM employee;
```

```
SQL> SELECT name, (salary/30) AS PER_DAY_SALARY FROM employee;

NAME                                               PER_DAY_SALARY
-------------------------------------------------- --------------
Dipshikha                                             1333.33333
Nayanaa                                                      400
Ayan                                                  1833.33333
Rohit                                                 666.666667
Aryan                                                       1600
Jit                                                   333.333333
Arman                                                        450
Pritam                                                      1500
Jyothi                                                833.333333

9 rows selected.
```

```sql
--question(f)
DESC works;
```

```
SQL> DESC works;
 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------------------
 EID                                       NOT NULL VARCHAR2(5)
 DID                                       NOT NULL VARCHAR2(5)
```

```sql
--question(g)
UPDATE department SET floor_no = 40 WHERE name = 'SALES';
```

```
SQL> UPDATE department SET floor_no = 40 WHERE name = 'SALES';

1 row updated.

SQL>
```

```sql
--question(h)
ALTER TABLE employee ADD Date_Of_Birth DATE;
```

```
SQL> ALTER TABLE employee ADD Date_Of_Birth DATE;

Table altered.

SQL>
```

```sql
--question(i)
DELETE FROM works WHERE DID = 'D001';
```

```
SQL> DELETE FROM works WHERE DID = 'D001';

2 rows deleted.

SQL>
```

```sql
--question(j)
DROP TABLE works;
DROP TABLE department;
DROP TABLE employee;
```

```
SQL> DROP TABLE works;

Table dropped.

SQL> DROP TABLE department;

Table dropped.

SQL> DROP TABLE employee;

Table dropped.

SQL>
```