EXPERIMENT 6 (DBMS LAB)

CODE:

```
-- 1. Create the database
CREATE DATABASE EmployeeDB;

-- 2. Use the newly created database
USE EmployeeDB;

-- 3. Create the DEPT table
CREATE TABLE DEPT (
   DEPTNO INT PRIMARY KEY,
   DNAME VARCHAR(50),
   LOC VARCHAR(50)
);

-- 4. Insert data into DEPT table
INSERT INTO DEPT (DEPTNO, DNAME, LOC) VALUES (10, 'ACCOUNTING', 'NEW YORK');
INSERT INTO DEPT (DEPTNO, DNAME, LOC) VALUES (20, 'RESEARCH', 'DALLAS');
INSERT INTO DEPT (DEPTNO, DNAME, LOC) VALUES (30, 'SALES', 'CHICAGO');
INSERT INTO DEPT (DEPTNO, DNAME, LOC) VALUES (40, 'OPERATIONS', 'BOSTON');

-- 5. Create the EMP table
CREATE TABLE EMP (
   EMPNO INT PRIMARY KEY,
   ENAME VARCHAR(50),
   JOB VARCHAR(50),
   MGR INT,
   HIREDATE DATE,
   SAL DECIMAL(10, 2),
   COMM DECIMAL(10, 2),
```

```
    DEPTNO INT,
    FOREIGN KEY (DEPTNO) REFERENCES DEPT(DEPTNO)
);

-- 6. Insert data into EMP table
INSERT INTO EMP (EMPNO, ENAME, JOB, MGR, HIREDATE, SAL, COMM, DEPTNO) VALUES (7369, 'SMITH', 'CLERK', 7902, '1980-12-17', 500, 800, 20);
INSERT INTO EMP (EMPNO, ENAME, JOB, MGR, HIREDATE, SAL, COMM, DEPTNO) VALUES (7499, 'ALLEN', 'SALESMAN', 7698, '1981-02-20', 1600, 300, 30);
INSERT INTO EMP (EMPNO, ENAME, JOB, MGR, HIREDATE, SAL, COMM, DEPTNO) VALUES (7521, 'WARD', 'SALESMAN', 7698, '1981-02-22', 1250, 500, 30);
INSERT INTO EMP (EMPNO, ENAME, JOB, MGR, HIREDATE, SAL, COMM, DEPTNO) VALUES (7566, 'JONES', 'MANAGER', 7839, '1981-04-02', 2975, NULL, 20);
INSERT INTO EMP (EMPNO, ENAME, JOB, MGR, HIREDATE, SAL, COMM, DEPTNO) VALUES (7654, 'MARTIN', 'SALESMAN', 7698, '1981-09-28', 1250, 1400, 30);
INSERT INTO EMP (EMPNO, ENAME, JOB, MGR, HIREDATE, SAL, COMM, DEPTNO) VALUES (7698, 'BLAKE', 'MANAGER', 7839, '1981-05-01', 2850, NULL, 30);
INSERT INTO EMP (EMPNO, ENAME, JOB, MGR, HIREDATE, SAL, COMM, DEPTNO) VALUES (7782, 'CLARK', 'MANAGER', 7839, '1981-06-09', 2450, NULL, 10);
INSERT INTO EMP (EMPNO, ENAME, JOB, MGR, HIREDATE, SAL, COMM, DEPTNO) VALUES (7788, 'SCOTT', 'ANALYST', 7566, '1982-12-09', 3000, NULL, 20);
INSERT INTO EMP (EMPNO, ENAME, JOB, MGR, HIREDATE, SAL, COMM, DEPTNO) VALUES (7839, 'KING', 'PRESIDENT', NULL, '1981-11-17', 5000, NULL, 10);
INSERT INTO EMP (EMPNO, ENAME, JOB, MGR, HIREDATE, SAL, COMM, DEPTNO) VALUES (7844, 'TURNER', 'SALESMAN', 7698, '1981-09-08', 1500, 0, 30);
INSERT INTO EMP (EMPNO, ENAME, JOB, MGR, HIREDATE, SAL, COMM, DEPTNO) VALUES (7876, 'ADAMS', 'CLERK', 7788, '1983-01-12', 1100, NULL, 20);
INSERT INTO EMP (EMPNO, ENAME, JOB, MGR, HIREDATE, SAL, COMM, DEPTNO) VALUES (7900, 'JAMES', 'CLERK', 7698, '1981-12-03', 950, NULL, 30);
INSERT INTO EMP (EMPNO, ENAME, JOB, MGR, HIREDATE, SAL, COMM, DEPTNO) VALUES (7902, 'FORD', 'ANALYST', 7566, '1981-12-03', 3000, NULL, 20);
INSERT INTO EMP (EMPNO, ENAME, JOB, MGR, HIREDATE, SAL, COMM, DEPTNO) VALUES (7934, 'MILLER', 'CLERK', 7782, '1982-01-23', 1300, NULL, 10);

-- 7. Queries to retrieve requested data
```

-- 1. Retrieve the average salary of all employees

```
SELECT AVG(SAL) AS Avg_Salary FROM EMP;
```

-- 2. Retrieve the number of employees

```
SELECT COUNT(*) AS Number_of_Employees FROM EMP;
```

-- 3. Retrieve distinct number of employees

```
SELECT COUNT(DISTINCT EMPNO) AS Distinct_Employees FROM EMP;
```

-- 4. Retrieve total salary of employees grouped by job

```
SELECT JOB, SUM(SAL) AS Total_Salary FROM EMP GROUP BY JOB;
```

-- 5. Display the employee information with the maximum salary

```
SELECT * FROM EMP WHERE SAL = (SELECT MAX(SAL) FROM EMP);
```

-- 6. Find the highest-paid employee in department 10

```
SELECT * FROM EMP WHERE DEPTNO = 10 AND SAL = (SELECT MAX(SAL) FROM EMP WHERE
DEPTNO = 10);
```

-- 7. List the employees whose salary is equal to the average of the maximum and minimum salary

```
SELECT * FROM EMP WHERE SAL = (SELECT (MAX(SAL) + MIN(SAL)) / 2 FROM EMP);
```

-- 8. List the employees who joined the company on the same date

```
SELECT HIREDATE, COUNT(*) AS Number_of_Employees FROM EMP GROUP BY HIREDATE
HAVING COUNT(*) > 1;
```

-- 9. Display the employee names in upper and lower case

```
SELECT UPPER(ENAME) AS Upper_Name, LOWER(ENAME) AS Lower_Name FROM EMP;
```

-- 10. Find the date 3 days after the hiredate

```
SELECT ENAME, HIREDATE, HIREDATE + INTERVAL 3 DAY AS Date_After_3_Days FROM EMP;
```

OUTPUT:

```
mysql> -- 1. Retrieve the average salary of all employees
mysql> SELECT AVG(SAL) AS Avg_Salary FROM EMP;
+-------------+
| Avg_Salary  |
+-------------+
| 2051.785714 |
+-------------+
1 row in set (0.00 sec)
```

```
mysql> -- 2. Retrieve the number of employees
mysql> SELECT COUNT(*) AS Number_of_Employees FROM EMP;
+---------------------+
| Number_of_Employees |
+---------------------+
|                  14 |
+---------------------+
1 row in set (0.00 sec)
```

```
mysql> -- 3. Retrieve distinct number of employees
mysql> SELECT COUNT(DISTINCT EMPNO) AS Distinct_Employees FROM EMP;
+--------------------+
| Distinct_Employees |
+--------------------+
|                 14 |
+--------------------+
1 row in set (0.00 sec)
```

```
mysql> -- 4. Retrieve total salary of employees grouped by job
mysql> SELECT JOB, SUM(SAL) AS Total_Salary FROM EMP GROUP BY JOB;
+-----------+--------------+
| JOB       | Total_Salary |
+-----------+--------------+
| CLERK     |      3850.00 |
| SALESMAN  |      5600.00 |
| MANAGER   |      8275.00 |
| ANALYST   |      6000.00 |
| PRESIDENT |      5000.00 |
+-----------+--------------+
5 rows in set (0.00 sec)
```

```
mysql> -- 6. Find the highest-paid employee in department 10
mysql> SELECT * FROM EMP WHERE DEPTNO = 10 AND SAL = (SELECT MAX(SAL) FROM EMP WHERE DEPTNO = 10);
+-------+-------+-----------+------+------------+---------+------+--------+
| EMPNO | ENAME | JOB       | MGR  | HIREDATE   | SAL     | COMM | DEPTNO |
+-------+-------+-----------+------+------------+---------+------+--------+
|  7839 | KING  | PRESIDENT | NULL | 1981-11-17 | 5000.00 | NULL |     10 |
+-------+-------+-----------+------+------------+---------+------+--------+
1 row in set (0.00 sec)
```

```
mysql> -- 5. Display the employee information with the maximum salary
mysql> SELECT * FROM EMP WHERE SAL = (SELECT MAX(SAL) FROM EMP);
+-------+-------+-----------+------+------------+---------+------+--------+
| EMPNO | ENAME | JOB       | MGR  | HIREDATE   | SAL     | COMM | DEPTNO |
+-------+-------+-----------+------+------------+---------+------+--------+
|  7839 | KING  | PRESIDENT | NULL | 1981-11-17 | 5000.00 | NULL |     10 |
+-------+-------+-----------+------+------------+---------+------+--------+
1 row in set (0.00 sec)
```

```
mysql>
mysql> -- 7. List the employees whose salary is equal to the average of the maximum and minimum salary
mysql> SELECT * FROM EMP WHERE SAL = (SELECT (MAX(SAL) + MIN(SAL)) / 2 FROM EMP);
Empty set (0.00 sec)
```

```
mysql> -- 8. List the employees who joined the company on the same date
mysql> SELECT HIREDATE, COUNT(*) AS Number_of_Employees FROM EMP GROUP BY HIREDATE HAVING COUNT(*) > 1;
+------------+---------------------+
| HIREDATE   | Number_of_Employees |
+------------+---------------------+
| 1981-12-03 |                   2 |
+------------+---------------------+
1 row in set (0.00 sec)
```

```
mysql> -- 9. Display the employee names in upper and lower case
mysql> SELECT UPPER(ENAME) AS Upper_Name, LOWER(ENAME) AS Lower_Name FROM EMP;
+------------+------------+
| Upper_Name | Lower_Name |
+------------+------------+
| SMITH      | smith      |
| ALLEN      | allen      |
| WARD       | ward       |
| JONES      | jones      |
| MARTIN     | martin     |
| BLAKE      | blake      |
| CLARK      | clark      |
| SCOTT      | scott      |
| KING       | king       |
| TURNER     | turner     |
| ADAMS      | adams      |
| JAMES      | james      |
| FORD       | ford       |
| MILLER     | miller     |
+------------+------------+
14 rows in set (0.00 sec)
```

```
mysql> -- 10. Find the date 3 days after the hiredate
mysql> SELECT ENAME, HIREDATE, HIREDATE + INTERVAL 3 DAY AS Date_After_3_Days FROM EMP;
+--------+------------+-------------------+
| ENAME  | HIREDATE   | Date_After_3_Days |
+--------+------------+-------------------+
| SMITH  | 1980-12-17 | 1980-12-20        |
| ALLEN  | 1981-02-20 | 1981-02-23        |
| WARD   | 1981-02-22 | 1981-02-25        |
| JONES  | 1981-04-02 | 1981-04-05        |
| MARTIN | 1981-09-28 | 1981-10-01        |
| BLAKE  | 1981-05-01 | 1981-05-04        |
| CLARK  | 1981-06-09 | 1981-06-12        |
| SCOTT  | 1982-12-09 | 1982-12-12        |
| KING   | 1981-11-17 | 1981-11-20        |
| TURNER | 1981-09-08 | 1981-09-11        |
| ADAMS  | 1983-01-12 | 1983-01-15        |
| JAMES  | 1981-12-03 | 1981-12-06        |
| FORD   | 1981-12-03 | 1981-12-06        |
| MILLER | 1982-01-23 | 1982-01-26        |
+--------+------------+-------------------+
14 rows in set (0.00 sec)
```