MCAC104

DATABASE SYSTEMS

ASSIGNMENT 1

SUBMITTED BY

RITESH GUPTA (MCA 1ST SEM)

Query 1.

Write a query to display name, job, hiredate and employee number for each employee with employee number appearing first.

```
> SELECT empno, ename, job, hiredate FROM emp;
+-------+--------+-----------+------------+
| empno | ename  | job       | hiredate   |
+-------+--------+-----------+------------+
|  7369 | SMITH  | CLERK     | 1980-12-17 |
|  7499 | ALLEN  | SALESMAN  | 1981-02-20 |
|  7521 | ward   | SALESMAN  | 1981-02-22 |
|  7566 | JONES  | MANAGER   | 1981-04-02 |
|  7654 | MARTIN | SALESMAN  | 1981-09-28 |
|  7698 | BLAKE  | MANAGER   | 1981-05-01 |
|  7782 | CLARK  | MANAGER   | 1981-06-09 |
|  7788 | SCOTT  | ANALYST   | 1982-12-09 |
|  7839 | KING   | PRESIDENT | 1981-11-17 |
|  7844 | TURNER | SALESMAN  | 1981-09-08 |
|  7876 | ADAMS  | CLERK     | 1983-01-12 |
|  7900 | JAMES  | CLERK     | 1981-12-03 |
|  7902 | FORD   | ANALYST   | 1981-12-03 |
|  7934 | MILLER | CLERK     | 1982-01-23 |
+-------+--------+-----------+------------+
```

Query 2.

Write a query to display unique jobs from the employee table.

```
> SELECT DISTINCT job FROM emp;
+-----------+
| job       |
+-----------+
| CLERK     |
| SALESMAN  |
| MANAGER   |
| ANALYST   |
| PRESIDENT |
+-----------+
```

Query 3.

Write a query to display name concatenated by a job separated by a comma.

```
> SELECT CONCAT(ename, ", ", job) FROM emp;
+--------------------------+
| CONCAT(ename, ", ", job) |
+--------------------------+
| SMITH, CLERK             |
| ALLEN, SALESMAN          |
| ward, SALESMAN           |
| JONES, MANAGER           |
| MARTIN, SALESMAN         |
| BLAKE, MANAGER           |
| CLARK, MANAGER           |
| SCOTT, ANALYST           |
| KING, PRESIDENT          |
| TURNER, SALESMAN         |
| ADAMS, CLERK             |
| JAMES, CLERK             |
| FORD, ANALYST            |
| MILLER, CLERK            |
+--------------------------+
```

Query 4.

Write a query to display the name and salary of employees earning more than $2850.

```
> SELECT ename, sal FROM emp WHERE (sal > 2850);
+-------+---------+
| ename | sal     |
+-------+---------+
| JONES | 2975.00 |
| SCOTT | 3000.00 |
| KING  | 5000.00 |
| FORD  | 3000.00 |
+-------+---------+
```

Query 5.

Write a query to display the name and department number for employee number 7900.

```
> SELECT ename, deptno FROM emp WHERE empno = 7900;
+-------+--------+
| ename | deptno |
+-------+--------+
| JAMES |     30 |
+-------+--------+
```

Query 6.

Write a query to display the name and salary of all employees whose salary is not in the range of $1500 and $2850.

```
> SELECT ename, sal FROM emp WHERE NOT(sal >= 1500 AND sal <=2850);
+--------+---------+
| ename  | sal     |
+--------+---------+
| SMITH  |  800.00 |
| ward   | 1250.00 |
| JONES  | 2975.00 |
| MARTIN | 1250.00 |
| SCOTT  | 3000.00 |
| KING   | 5000.00 |
| ADAMS  | 1100.00 |
| JAMES  |  950.00 |
| FORD   | 3000.00 |
| MILLER | 1300.00 |
+--------+---------+
```

Query 7.

Write a query to display the name and department number of all employees in departments 10 and 30 in alphabetical order by name.

```
> SELECT ename, deptno FROM emp WHERE deptno = 10 OR deptno = 30;
+--------+--------+
| ename  | deptno |
+--------+--------+
| ALLEN  |     30 |
| ward   |     30 |
| MARTIN |     30 |
| BLAKE  |     30 |
| CLARK  |     10 |
| KING   |     10 |
| TURNER |     30 |
| JAMES  |     30 |
| MILLER |     10 |
+--------+--------+
```

Query 8.

Write a query to display the name and salary of employees who earned more than $1500 and are in department number 10 or 30.

```
> SELECT ename, sal FROM emp WHERE sal > 1500 AND deptno = 10 OR deptno = 30;
+--------+---------+
| ename  | sal     |
+--------+---------+
| ALLEN  | 1600.00 |
| ward   | 1250.00 |
| MARTIN | 1250.00 |
| BLAKE  | 2850.00 |
| CLARK  | 2450.00 |
| KING   | 5000.00 |
| TURNER | 1500.00 |
| JAMES  |  950.00 |
+--------+---------+
```

Query 9.

Write a query to display the name and hire date of every employee who was hired in 1981.

```
> SELECT ename, hiredate FROM emp WHERE YEAR(hiredate) = 1981;
+--------+------------+
| ename  | hiredate   |
+--------+------------+
| ALLEN  | 1981-02-20 |
| ward   | 1981-02-22 |
| JONES  | 1981-04-02 |
| MARTIN | 1981-09-28 |
| BLAKE  | 1981-05-01 |
| CLARK  | 1981-06-09 |
| KING   | 1981-11-17 |
| TURNER | 1981-09-08 |
| JAMES  | 1981-12-03 |
| FORD   | 1981-12-03 |
+--------+------------+
```

Query 10.

Write a query to display the name and job of all employees who do not have a manager.

```
> SELECT ename, job FROM emp WHERE ISNULL(mgr);
+-------+-----------+
| ename | job       |
+-------+-----------+
| KING  | PRESIDENT |
+-------+-----------+
```

Query 11.

Write a query to display the name, salary and commission for all employees who earn commission. Sort the data in descending order of salary.

```
> SELECT ename, sal, comm FROM emp WHERE NOT(ISNULL(comm)) ORDER BY sal DESC;
+--------+---------+---------+
| ename  | sal     | comm    |
+--------+---------+---------+
| ALLEN  | 1600.00 |  300.00 |
| TURNER | 1500.00 |    0.00 |
| ward   | 1250.00 |  500.00 |
| MARTIN | 1250.00 | 1400.00 |
+--------+---------+---------+
```

Query12.

Write a query to display the names of all employees where the third letter of their name is A.

```
> SELECT ename FROM emp WHERE SUBSTRING(ename, 3, 1) = 'A';
+-------+
| ename |
+-------+
| BLAKE |
| CLARK |
| ADAMS |
+-------+
```

Query13.

Write a query to display the names of all employees that have two R's or A's in their name and are in department number 30 or their manager is 7788.

```
> SELECT ename
> FROM emp
> WHERE ((LENGTH(ename) - LENGTH(REPLACE(ename, 'R', ''))) = 2
> OR (LENGTH(ename) - LENGTH(REPLACE(ename, 'A', ''))) = 2)
> AND deptno = 30
> OR mgr = 7788;
+--------+
| ename  |
+--------+
| TURNER |
| ADAMS  |
+--------+
```

Query 14.

Write a query to display the name, job and salary of all employees whose job is clerk or analyst and their salary are not equal to 1000, 3000 or 5000.

```
> SELECT ename, job, sal
> FROM emp
> WHERE job IN ('CLERK', 'ANALYST') AND sal NOT IN (1000,3000,5000);
+--------+-------+---------+
| ename  | job   | sal     |
+--------+-------+---------+
| SMITH  | CLERK |  800.00 |
| ADAMS  | CLERK | 1100.00 |
| JAMES  | CLERK |  950.00 |
| MILLER | CLERK | 1300.00 |
+--------+-------+---------+
```

Query15.

Write a query to display the name, salary and commission of all employees whose commission amount is greater than their salary increased by 5%.

```
> SELECT ename, sal, comm FROM emp WHERE comm > sal*1.05;
+--------+---------+---------+
| ename  | sal     | comm    |
+--------+---------+---------+
| MARTIN | 1250.00 | 1400.00 |
+--------+---------+---------+
```

Query16.

Write a query to display a current date.

```
> SELECT CURDATE();
+------------+
| CURDATE()  |
+------------+
| 2023-10-14 |
+------------+
```

Query17.

Write a query to display employee number, name, salary, salary increased by 15% expressed as a whole number.

```
> SELECT empno, ename, sal, ROUND(sal*1.15) AS increased_sal FROM emp;
```

empno	ename	sal	increased_sal
7369	SMITH	800.00	920
7499	ALLEN	1600.00	1840
7521	WARD	1250.00	1438
7566	JONES	2975.00	3421
7654	MARTIN	1250.00	1438
7698	BLAKE	2850.00	3278
7782	CLARK	2450.00	2818
7788	SCOTT	3000.00	3450
7839	KING	5000.00	5750
7844	TURNER	1500.00	1725
7876	ADAMS	1100.00	1265
7900	JAMES	950.00	1093
7902	FORD	3000.00	3450
7934	MILLER	1300.00	1495

Query18.

Write a query to display the employee number, name, salary, salary increased by 15% expressed as a whole number and increase in salary.

```
> SELECT empno, ename, sal, ROUND(sal*1.15) AS increased_sal, ROUND(sal *
0.15) AS increase_in_sal FROM emp;
```

empno	ename	sal	increased_sal	increase_in_sal
7369	SMITH	800.00	920	120
7499	ALLEN	1600.00	1840	240
7521	WARD	1250.00	1438	188
7566	JONES	2975.00	3421	446
7654	MARTIN	1250.00	1438	188
7698	BLAKE	2850.00	3278	428
7782	CLARK	2450.00	2818	368
7788	SCOTT	3000.00	3450	450
7839	KING	5000.00	5750	750
7844	TURNER	1500.00	1725	225
7876	ADAMS	1100.00	1265	165
7900	JAMES	950.00	1093	143
7902	FORD	3000.00	3450	450
7934	MILLER	1300.00	1495	195

Query19.

Write a query to display the following for each employee:-
<ename> earns <salary> monthly but wants <3 times salary>. Label the column as Dream Salary.

```
> SELECT CONCAT(ename, ' earns ', sal, ' monthly but wants ',sal*3) AS 'DREAM SALARY' FROM emp;
+-----------------------------------------------+
| DREAM SALARY                                  |
+-----------------------------------------------+
| SMITH earns 800.00 monthly but wants 2400.00  |
| ALLEN earns 1600.00 monthly but wants 4800.00 |
| WARD earns 1250.00 monthly but wants 3750.00  |
| JONES earns 2975.00 monthly but wants 8925.00 |
| MARTIN earns 1250.00 monthly but wants 3750.00|
| BLAKE earns 2850.00 monthly but wants 8550.00 |
| CLARK earns 2450.00 monthly but wants 7350.00 |
| SCOTT earns 3000.00 monthly but wants 9000.00 |
| KING earns 5000.00 monthly but wants 15000.00 |
| TURNER earns 1500.00 monthly but wants 4500.00|
| ADAMS earns 1100.00 monthly but wants 3300.00 |
| JAMES earns 950.00 monthly but wants 2850.00  |
| FORD earns 3000.00 monthly but wants 9000.00  |
| MILLER earns 1300.00 monthly but wants 3900.00|
+-----------------------------------------------+
```

Query20.

Write a query to display the employees name with the first letter capitalized and all other letters lower case and length of their name for all employees whose name start with J, A and M.

```
> SELECT CONCAT(LEFT(ename,1),LCASE(RIGHT(ename, LENGTH(ename)-1))) AS name, LENGTH(ename)AS length FROM emp WHERE LEFT(ename, 1) IN ('J', 'A', 'M');
+--------+--------+
| name   | length |
+--------+--------+
| Allen  |      5 |
| Jones  |      5 |
| Martin |      6 |
| Adams  |      5 |
| James  |      5 |
| Miller |      6 |
+--------+--------+
```

Query21.

Write a query to display the name, department name, department number for all employees.

```
> SELECT emp.ename, dept.dname, emp.deptno FROM emp JOIN dept ON emp.deptno = dept.deptno;
+--------+------------+--------+
| ename  | dname      | deptno |
+--------+------------+--------+
| SMITH  | RESEARCH   |     20 |
| ALLEN  | SALES      |     30 |
| WARD   | SALES      |     30 |
| JONES  | RESEARCH   |     20 |
| MARTIN | SALES      |     30 |
| BLAKE  | SALES      |     30 |
| CLARK  | ACCOUNTING |     10 |
| SCOTT  | RESEARCH   |     20 |
| KING   | ACCOUNTING |     10 |
| TURNER | SALES      |     30 |
| ADAMS  | RESEARCH   |     20 |
| JAMES  | SALES      |     30 |
| FORD   | RESEARCH   |     20 |
| MILLER | ACCOUNTING |     10 |
+--------+------------+--------+
```

Query22.

Write a query that displays the unique listing of all jobs that are in department 30.

```
> SELECT DISTINCT(job) FROM emp WHERE deptno = 30;
+----------+
| job      |
+----------+
| SALESMAN |
| MANAGER  |
| CLERK    |
+----------+
```

Query23.

Write a query to display the employee name, department name and location for all employees who earn a commission.

```
> SELECT emp.ename, dept.dname, dept.loc FROM emp JOIN dept ON emp.deptno = dept.deptno;
```

ename	dname	loc
SMITH	RESEARCH	DALLAS
ALLEN	SALES	CHICAGO
WARD	SALES	CHICAGO
JONES	RESEARCH	DALLAS
MARTIN	SALES	CHICAGO
BLAKE	SALES	CHICAGO
CLARK	ACCOUNTING	NEW YORK
SCOTT	RESEARCH	DALLAS
KING	ACCOUNTING	NEW YORK
TURNER	SALES	CHICAGO
ADAMS	RESEARCH	DALLAS
JAMES	SALES	CHICAGO
FORD	RESEARCH	DALLAS
MILLER	ACCOUNTING	NEW YORK

Query24.

Write a query to display the employee name and department name for all employees who have 'A' in their name.

```
> SELECT emp.ename, dept.dname
> FROM emp
> JOIN dept ON LENGTH(emp.ename) != LENGTH(REPLACE(emp.ename, 'A', ''))
> AND emp.deptno = dept.deptno;
```

ename	dname
ALLEN	SALES
WARD	SALES
MARTIN	SALES
BLAKE	SALES
CLARK	ACCOUNTING
ADAMS	RESEARCH
JAMES	SALES

Query25.

Write a query to display the name, job, department number and department name for all employees who work at location DALLAS.

```
> SELECT emp.ename, emp.job, emp.deptno, dept.dname
> FROM emp
> JOIN dept ON emp.deptno = dept.deptno AND dept.loc = 'DALLAS';
+-------+---------+--------+----------+
| ename | job     | deptno | dname    |
+-------+---------+--------+----------+
| SMITH | CLERK   |     20 | RESEARCH |
| JONES | MANAGER |     20 | RESEARCH |
| SCOTT | ANALYST |     20 | RESEARCH |
| ADAMS | CLERK   |     20 | RESEARCH |
| FORD  | ANALYST |     20 | RESEARCH |
+-------+---------+--------+----------+
```