SQL Exercises

Two tables to be created in the database that may be used for the following exercises. Their structure is as follows:

EMP(empno, ename, job, mgr-id, hiredate, sal, comm., deptno)

DEPT(deptno, dname, loc)

These tables have the following data:

EMPNO	ENAME	JOB	MGR-Id	HIREDATE	SAL	COMM	DEPTNO
7369	SMITH	CLERK	7902	17-DEC-80	800		20
7499	ALLEN	SALESMAN	7698	20-FEB-81	1600	300	30
7521	WARD	SALESMAN	7698	22-FEB-81	1250	500	30
7566	JONES	MANAGER	7839	02-APR-81	2975		20
7654	MARTIN	SALESMAN	7698	28-SEP-81	1250	1400	30
7698	BLAKE	MANAGER	7839	01-MAY-81	2850		30
7782	CLARK	MANAGER	7839	09-JUN-81	2450		10
7788	SCOTT	ANALYST	7566	19-APR-87	3000		20
7839	KING	PRESIDENT		17-NOV-81	5000		10
7844	TURNER	SALESMAN	7698	08-SEP-81	1500	0	30
7876	ADAMS	CLERK	7788	23-MAY-87	1100		20
7900	JAMES	CLERK	7698	03-DEC-81	950		30
7902	FORD	ANALYST	7566	03-DEC-81	3000		20
7934	MILLER	CLERK	7782	23-JAN-82	1300		10

DEPT

DEPTNO	DNAME	LOC
10	ACCOUNTING	NEW YORK
20	RESEARCH	DALLAS
30	SALES	CHICAGO
40	OPERATIONS	BOSTON

Write and execute the necessary SQL statements to perform the following tasks.

1. List all employees whose name begins with 'A'.

```
select * from EMP like 'A%'
```

2. Select all those employees who don't have a manager.

```
select * from EMP where MGR-Id is null
```

3. List employee name, number and salary for those employees who earn in the range 1200 to 1400.

```
select ENAME, EMPNO, SAL from EMP where SAL>=1200 and SAL<=1400
```

4. Give all the employees in the RESEARCH department a 10% pay rise. Verify that this has been done by listing all their details before and after the rise.

```
select d.dname, e.ename, e.sal
from EMP e inner join DEPT d
on e.deptno=d.deptno
where d.deptno=20

update emp set sal=sal+(sal*10/100) where deptno=20

select d.dname, e.ename, e.sal
from EMP e inner join DEPT d
on e.deptno=d.deptno
where d.deptno=20
```

5. Find the number of CLERKS employed. Give it a descriptive heading.

```
select COUNT(job) as 'TOTAL CLERK' from EMP where job='Clerk'
```

6. Find the average salary for each job type and the number of people employed in each job.

```
select job, AVG(sal) as 'AVG SALARY', COUNT(empno) as 'COUNT OF EMPLOYEE' from EMP group by job
```

7. List the employees with the lowest and highest salary.

```
select MIN(sal) as 'MIN SAL', MAX(sal) as 'MAX SAL' from emp
```

8. List full details of departments that don't have any employees.

```
select d.deptno, d.dname, d.loc, e.ename
from DEPT d LEFT OUTER JOIN EMP e
on d.deptno=e.deptno
where e.deptno IS NULL
```

9. Get the names and salaries of all the analysts earning more than 1200 who are based in department 20. Sort the an swer by ascending order of name.

```
select ename,sal,job from EMP
where job='Analyst' AND deptno=20
group by ename, sal, job
having sal>=1200
order by ename ASC
```

10. For each department, list its name and number together with the total salary paid to employees in that department .

```
select d.dname, d.deptno, SUM(e.sal) as 'TOTAL SALARY'
from EMP e inner join DEPT d
on e.deptno=d.deptno
group by d.deptno,d.dname
```

11. Find out salary of both MILLER and SMITH.

```
select ename, sal from EMP
where ename in('Smith', 'Miller')
```

12. Find out the names of the employees whose name begin with ‘A’ or ‘M’.

```
select * from EMP where ENAME like '[AM]%'
```

13. Compute yearly salary of SMITH.

```
select ename, 12*sal as 'Annual Salary' from EMP
where ename='Smith'
```

14. List the name and salary for all employees whose salary is not in the range of 1500 and 2850.

```
select ENAME, SAL from EMP where SAL<1500 or SAL>2850
```