1. Display the Name, manager Id, and hire date of all employees who are either clerk or
works in dept 20. the date should be in the following format:
DATE_HIRED
Seventeenth December, 1980
Second April, 1981

Query:
```sql
SELECT
    ENAME,
    MGR,
    TO_CHAR(HIREDATE, 'fmDdspth Month, YYYY') AS "DATE OF HIRING"
FROM
    EMP
WHERE
    JOB = 'CLERK'
    OR DEPTNO = 20;
```
Result:

	ENAME	MGR	DATE OF HIRING
1	SMITH	7902	Seventeenth December, 2080
2	JONES	7839	Second April, 2081
3	SCOTT	7566	Nineteenth April, 2087
4	ADAMS	7788	Twenty-Third May, 2087
5	JAMES	7698	Third December, 2081
6	FORD	7566	Third December, 2081
7	MILLER	7782	Twenty-Third January, 2082

2.. List the employee name and old salary and new increased salary by 25% and expressed as a whole number.

Query:

```sql
SELECT SAL AS "OLD SALARY",1.25*SAL AS "NEW SALARY" FROM EMP;
```

Result:

	OLD SALARY	NEW SALARY
1	800	1000
2	1600	2000
3	1250	1562.5
4	2975	3718.75
5	1250	1562.5
6	2850	3562.5
7	2450	3062.5
8	3000	3750
9	5000	6250
10	1500	1875
11	1100	1375
12	950	1187.5
13	3000	3750
14	1300	1625

3. List the employee name and salary where name is displayed as left justified and salary with right justified.

Query:
```sql
SELECT
   LPAD(ENAME, 15,' * ') AS "Employee Name",
   RPAD(SAL, 10, ' * ') AS "Salary"
FROM EMP;
```

Result:(used * as environment is not supporting spacing)

	EMPLOYEE NAME	SALARY
1	* * * SMITH	800 * *
2	* * * ALLEN	1600 * *
3	* * * *WARD	1250 * *
4	* * * JONES	2975 * *
5	* * * MARTIN	1250 * *
6	* * * BLAKE	2850 * *
7	* * * CLARK	2450 * *
8	* * * SCOTT	3000 * *
9	* * * *KING	5000 * *
10	* * * TURNER	1500 * *
11	* * * ADAMS	1100 * *
12	* * * JAMES	950 * *
13	* * * *FORD	3000 * *
14	* * * MILLER	1300 * *

4. Produce the output as follows(for all employees)
ROLE OF THE EMPLOYEE
Name1 (<Job of Name 1>)
Name2 (<Job of Name 2>)
....
Note: Only first character of Name and job will be in uppercase.

Query:
```sql
SELECT
  'ROLE OF THE EMPLOYEE' AS "Header"
FROM DUAL
UNION ALL
SELECT
  INITCAP(ENAME) || ' (' || INITCAP(job) || ')' AS "Role"
FROM EMP;
```
Result:

	HEADER
1	ROLE OF THE EMPLOYEE
2	Smith (Clerk)
3	Allen (Salesman)
4	Ward (Salesman)
5	Jones (Manager)
6	Martin (Salesman)
7	Blake (Manager)
8	Clark (Manager)
9	Scott (Analyst)
10	King (President)
11	Turner (Salesman)
12	Adams (Clerk)
13	James (Clerk)
14	Ford (Analyst)
15	Miller (Clerk)

5. Give the details of an employees with job is clerk (enter the job value clerk as input).

Query:
```sql
SELECT *
FROM emp
WHERE LOWER(job) = LOWER(:job_input);
```

Result:Input CLERK as input

	EMPNO	ENAME	JOB	MGR	HIREDATE	SAL	COMM	DEPTNO	PHONENO	ADDRESS
1	7369	SMITH	CLERK	7902	12/17/2080, 12:00:(	800	(null)	20	(null)	(null)
2	7876	ADAMS	CLERK	7788	5/23/2087, 12:00:00	1100	(null)	20	(null)	(null)
3	7900	JAMES	CLERK	7698	12/3/2081, 12:00:0(	950	(null)	30	(null)	(null)
4	7934	MILLER	CLERK	7782	1/23/2082, 12:00:0(	1300	(null)	10	(null)	(null)

6. Display each employee name with hiredate and salary review date. Assume that date is one year after hiredate. Order the output in ascending review date order.

Query:
```sql
SELECT
  ENAME,HIREDATE,
  ADD_MONTHS(HIREDATE, 12) AS REVIEW_DATE
FROM EMP
ORDER BY REVIEW_DATE;
```

Result:

	ENAME	HIREDATE	REVIEW_DATE
1	SMITH	12/17/2080, 12:00:00 AM	12/17/2081, 12:00:00 AM
2	ALLEN	2/20/2081, 12:00:00 AM	2/20/2082, 12:00:00 AM
3	WARD	2/22/2081, 12:00:00 AM	2/22/2082, 12:00:00 AM
4	JONES	4/2/2081, 12:00:00 AM	4/2/2082, 12:00:00 AM
5	BLAKE	5/1/2081, 12:00:00 AM	5/1/2082, 12:00:00 AM
6	CLARK	6/9/2081, 12:00:00 AM	6/9/2082, 12:00:00 AM
7	TURNER	9/8/2081, 12:00:00 AM	9/8/2082, 12:00:00 AM
8	MARTIN	9/28/2081, 12:00:00 AM	9/28/2082, 12:00:00 AM
9	KING	11/17/2081, 12:00:00 AM	11/17/2082, 12:00:00 AM
10	JAMES	12/3/2081, 12:00:00 AM	12/3/2082, 12:00:00 AM
11	FORD	12/3/2081, 12:00:00 AM	12/3/2082, 12:00:00 AM
12	MILLER	1/23/2082, 12:00:00 AM	1/23/2083, 12:00:00 AM
13	SCOTT	4/19/2087, 12:00:00 AM	4/19/2088, 12:00:00 AM
14	ADAMS	5/23/2087, 12:00:00 AM	5/23/2088, 12:00:00 AM

7. Find the employees(s) who earn the highest salary in each job type sort in descending salary order(Use IN operator and subqueries)

Query:
```sql
SELECT EMPNO, ENAME, JOB, SAL
FROM EMP
WHERE (JOB, SAL) IN (
    SELECT JOB, MAX(SAL)
    FROM EMP
    GROUP BY JOB
)
ORDER BY SAL DESC;
```

	EMPNO	ENAME	JOB	SAL
1	7839	KING	PRESIDENT	5000
2	7788	SCOTT	ANALYST	3000
3	7902	FORD	ANALYST	3000
4	7566	JONES	MANAGER	2975
5	7499	ALLEN	SALESMAN	1600
6	7934	MILLER	CLERK	1300

8. Find the most recently hired employee in each department (give number only).

	EMPNO	ENAME	HIREDATE	DEPTNO
1	7876	ADAMS	5/23/2087, 12:00:0(	20
2	7900	JAMES	12/3/2081, 12:00:0(	30
3	7934	MILLER	1/23/2082, 12:00:0(	10

9. Show the name of the department and no of employees who works in that department.
Sort in department number.

Query:
```
SELECT D.DEPTNO, D.DNAME, COUNT(E.EMPNO) AS NO_OF_EMPLOYEES
FROM DEPT D
LEFT JOIN EMP E ON D.DEPTNO = E.DEPTNO
GROUP BY D.DEPTNO, D.DNAME
ORDER BY D.DEPTNO;
```

Result:

	DEPTNO	DNAME	NO_OF_EMPLOYEES
1	10	ACCOUNTING	3
2	20	RESEARCH	5
3	30	SALES	6
4	40	OPERATIONS	0

10. Display the Id, name, salary and the salary grade for any employee who earns the maximum salary for their department. Sort in department number.

```
SELECT E.EMPNO, E.ENAME, E.SAL, S.GRADE, E.DEPTNO
FROM EMP E
JOIN SALGRADE S ON E.SAL BETWEEN S.LOSAL AND S.HISAL
WHERE (E.DEPTNO, E.SAL) IN (
    SELECT DEPTNO, MAX(SAL)
    FROM EMP
    GROUP BY DEPTNO
)
ORDER BY E.DEPTNO;
```

Result:

	EMPNO	ENAME	SAL	GRADE	DEPTNO
1	7839	KING	5000	5	10
2	7788	SCOTT	3000	4	20
3	7902	FORD	3000	4	20
4	7698	BLAKE	2850	4	30

11. In which year did most people join the company? Display the year and number of employees.

```sql
SELECT TO_CHAR(HIREDATE, 'YYYY') AS YEAR, COUNT(*) AS NO_OF_EMPLOYEES
FROM EMP
GROUP BY TO_CHAR(HIREDATE, 'YYYY')
HAVING COUNT(*) IN (
    SELECT MAX(COUNT(*))
    FROM EMP
    GROUP BY TO_CHAR(HIREDATE, 'YYYY')
);
```

Result:

	YEAR	NO_OF_EMPLOYEES
1	2081	10

12. Show the every alternate row in employee table.

Query:

```sql
SELECT *
FROM (
    SELECT E.*, ROW_NUMBER() OVER (ORDER BY EMPNO) AS RN
    FROM EMP E
)
WHERE MOD(RN, 2) = 1;
```

Result:

	EMPNO	ENAME	JOB	MGR	HIREDATE	SAL	COMM	DEPTNO	PHONENO	ADDRESS	RN
1	7369	SMITH	CLERK	7902	12/17/2080, 12:00:(	800	(null)	20	(null)	(null)	1
2	7521	WARD	SALESMAN	7698	2/22/2081, 12:00:0(	1250	500	30	(null)	(null)	3
3	7654	MARTIN	SALESMAN	7698	9/28/2081, 12:00:0(	1250	1400	30	(null)	(null)	5
4	7782	CLARK	MANAGER	7839	6/9/2081, 12:00:00	2450	(null)	10	(null)	(null)	7
5	7839	KING	PRESIDENT	(null)	11/17/2081, 12:00:(	5000	(null)	10	(null)	(null)	9
6	7876	ADAMS	CLERK	7788	5/23/2087, 12:00:0(	1100	(null)	20	(null)	(null)	11
7	7902	FORD	ANALYST	7566	12/3/2081, 12:00:0(	3000	(null)	20	(null)	(null)	13

13. Display the total salary of all employees. Total salary = salary + commission.

Query:

```sql
SELECT SUM(SAL + NVL(COMM, 0)) AS TOTAL_SALARY
FROM EMP;
```

Result:

	TOTAL_SALARY
1	31225

14. Display the department name and available jobs in that department.

Query:
```sql
SELECT D.DNAME, E.JOB
FROM DEPT D
JOIN EMP E ON D.DEPTNO = E.DEPTNO
GROUP BY D.DNAME, E.JOB
ORDER BY D.DNAME;
```

Result:

	TOTAL_SALARY
1	31225

15. Display all the available departments and the employee(s) works under it.

Query:

```sql
SELECT D.DNAME, E.ENAME
FROM DEPT D
LEFT JOIN EMP E ON D.DEPTNO = E.DEPTNO
ORDER BY D.DNAME;
```

Result:

	DNAME	ENAME
1	ACCOUNTING	CLARK
2	ACCOUNTING	MILLER
3	ACCOUNTING	KING
4	OPERATIONS	(null)
5	RESEARCH	SMITH
6	RESEARCH	ADAMS
7	RESEARCH	FORD
8	RESEARCH	JONES
9	RESEARCH	SCOTT
10	SALES	TURNER
11	SALES	ALLEN
12	SALES	JAMES
13	SALES	BLAKE
14	SALES	MARTIN
15	SALES	WARD