SQL> -- Name: Khushali Begde

SQL> -- Roll no: 07

SQL> -- Batch: A1

SQL> -- TA1

SQL> set linesize 400;

SQL> set pagesize 400;

SQL> -- Employee table

SQL> select \* from emp;

EMPNO ENAME JOB MGR HIREDATE SAL COMM DEPTNO

---------- ---------- --------- ---------- --------- ---------- ---------- ----------

7839 KING PRESIDENT 17-NOV-81 5000 10

7698 BLAKE MANAGER 7839 01-MAY-81 2850 30

7782 CLARK MANAGER 7839 09-JUN-81 2450 10

7566 JONES MANAGER 7839 02-APR-81 2975 20

7788 SCOTT ANALYST 7566 09-DEC-82 3000 20

7902 FORD ANALYST 7566 03-DEC-81 3000 20

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

7654 MARTIN SALESMAN 7698 28-SEP-81 1250 1400 30

7844 TURNER SALESMAN 7698 08-SEP-81 1500 0 30

7876 ADAMS CLERK 7788 12-JAN-83 1100 20

7900 JAMES CLERK 7698 03-DEC-81 950 30

7934 MILLER CLERK 7782 23-JAN-82 1300 10

14 rows selected.

SQL> -- Department table

SQL> select \* from dept;

DEPTNO DNAME LOC

---------- -------------- -------------

10 ACCOUNTING NEW YORK

20 RESEARCH DALLAS

30 SALES CHICAGO

40 OPERATIONS BOSTON

SQL> -- 1)Count the number of jobs in the organization

SQL> select count(distinct job) "Number of jobs"

2 from emp;

Number of jobs

--------------

5

SQL> -- 2)Count the number of departments in the organization

SQL> select count(deptno) "Number of departments"

2 from dept;

Number of departments

---------------------

4

SQL> -- 3)Count the number of employees whose commission is null

SQL> select count(empno) "Employee with commision= null"

2 from emp

3 where comm is null;

Employee with commision= null

-----------------------------

10

SQL> -- 4)Count the number of employees whose commission is not null

SQL> select count(empno) "Employee commision != null"

2 from emp

3 where comm is not null;

Employee commision != null

--------------------------

4

SQL> -- 5)Find the names of employees whose names begin with letter J.

SQL> select ename "Name"

2 from emp

3 where ename like 'J%';

Name

----------

JONES

JAMES

SQL> -- 6) Count the number of employees in each department.

SQL> select deptno "Department no", count(\*) "Number of employees"

2 from emp

3 group by deptno;

Department no Number of employees

------------- -------------------

30 6

20 5

10 3

SQL> -- 7) List the unique jobs in emp table.

SQL> select distinct job "Jobs"

2 from emp;

Jobs

---------

CLERK

SALESMAN

PRESIDENT

MANAGER

ANALYST

SQL> -- 8) List the president in emp table.

SQL> select \*

2 from emp

3 where job = 'PRESIDENT';

EMPNO ENAME JOB MGR HIREDATE SAL COMM DEPTNO

---------- ---------- --------- ---------- --------- ---------- ---------- ----------

7839 KING PRESIDENT 17-NOV-81 5000 10

SQL> -- 9) Find min and max salary in organization.

SQL> select min(sal) "Minimum Salary", max(sal) "Maximum Salary"

2 from emp;

Minimum Salary Maximum Salary

-------------- --------------

800 5000

SQL> -- 10) Find the average salary in organization.

SQL> select avg(sal) "Average Salary"

2 from emp;

Average Salary

--------------

2073.21429

SQL> -- 11) Count the number of employees in each job.

SQL> select job "Job", count(distinct empno) "Number of employees"

2 from emp

3 group by job;

Job Number of employees

--------- -------------------

CLERK 4

SALESMAN 4

PRESIDENT 1

MANAGER 3

ANALYST 2

SQL> -- 12) Find min, max,avg and total salary in each job.

SQL> select job "Job", min(sal) "Minimum Salary", max(sal) "Maximum Salary", avg(sal) "Average Salary", sum(sal) "Total Salary"

2 from emp

3 group by job;

Job Minimum Salary Maximum Salary Average Salary Total Salary

--------- -------------- -------------- -------------- ------------

CLERK 800 1300 1037.5 4150

SALESMAN 1250 1600 1400 5600

PRESIDENT 5000 5000 5000 5000

MANAGER 2450 2975 2758.33333 8275

ANALYST 3000 3000 3000 6000

SQL> -- 13) Find min, max,avg and total salary in each department.

SQL> select dname as "Department name", dept.deptno as "Department No",

2 min(sal) as "Minimum Salary", max(sal) as "Maximum Salary",

3 avg(sal) as "Average Salary", sum(sal) as "Total Salary"

4 from emp join dept

5 on emp.deptno = dept.deptno

6 group by dname, dept.deptno;

Department nam Department No Minimum Salary Maximum Salary Average Salary Total Salary

-------------- ------------- -------------- -------------- -------------- ------------

RESEARCH 20 800 3000 2175 10875

ACCOUNTING 10 1300 5000 2916.66667 8750

SALES 30 950 2850 1566.66667 9400

SQL> -- 14) Find the names of those employees who are working in department. 20 and their job is either clerk or salesman.

SQL> select ename "Employee Name"

2 from emp

3 where deptno = 20

4 and job in ('CLERK', 'SALESMAN');

Employee N

----------

SMITH

ADAMS

SQL> -- 15) Find the max salary in organization.

SQL> select max(sal) "Max Salary"

2 from emp;

Max Salary

----------

5000

SQL> -- 16) Find the names of those employees whose commission is highest.

SQL> select ename "Name"

2 from emp

3 where comm = (select max(comm) from emp);

Name

----------

MARTIN

SQL> select ename "Name", comm "Commision"

2 from emp

3 where comm = (select max(comm) from emp);

Name Commision

---------- ----------

MARTIN 1400

SQL> -- 17) Find the names of those employees whose commission is null.

SQL> select ename "Name"

2 from emp

3 where comm is null;

Name

----------

KING

BLAKE

CLARK

JONES

SCOTT

FORD

SMITH

ADAMS

JAMES

MILLER

10 rows selected.

SQL> -- 18) Find the names of employees whose job is either clerk or salesman or manager.

SQL> select ename "Name", job "Job"

2 from emp

3 where job in ('CLERK', 'SALESMAN', 'MANAGER');

Name Job

---------- ---------

BLAKE MANAGER

CLARK MANAGER

JONES MANAGER

SMITH CLERK

ALLEN SALESMAN

WARD SALESMAN

MARTIN SALESMAN

TURNER SALESMAN

ADAMS CLERK

JAMES CLERK

MILLER CLERK

11 rows selected.

SQL> -- 19) Find the names of employees whose joining date is between 17-DEC-80 and 23-MAY-87.

SQL> select ename "Name", hiredate "Hire-date"

2 from emp

3 where hiredate between '17-DEC-80' AND '23-MAY-87';

Name Hire-date

---------- ---------

KING 17-NOV-81

BLAKE 01-MAY-81

CLARK 09-JUN-81

JONES 02-APR-81

SCOTT 09-DEC-82

FORD 03-DEC-81

SMITH 17-DEC-80

ALLEN 20-FEB-81

WARD 22-FEB-81

MARTIN 28-SEP-81

TURNER 08-SEP-81

ADAMS 12-JAN-83

JAMES 03-DEC-81

MILLER 23-JAN-82

14 rows selected.

SQL> -- 20) Find the names of those employees whose second character in the name is A.

SQL> select ename "Name"

2 from emp

3 where ename like '\_A%';

Name

----------

WARD

MARTIN

JAMES

SQL> -- 21) Find the names of employees who are working as clerks.

SQL> select ename "Name", job "Job"

2 from emp

3 where job = 'CLERK';

Name Job

---------- ---------

SMITH CLERK

ADAMS CLERK

JAMES CLERK

MILLER CLERK

SQL> -- 22) Find the names of employee who are working under BLAKE.

SQL> select ename "Name"

2 from emp

3 where mgr = (select empno

4 from emp

5 where ename = 'BLAKE');

Name

----------

ALLEN

WARD

MARTIN

TURNER

JAMES

SQL> -- 23) Find the names of employee who are working in research department.

SQL> select ename

2 "Name"

3 from emp join dept

4 on emp.deptno = dept.deptno

5 and dname = 'RESEARCH';

Name

----------

JONES

SCOTT

FORD

SMITH

ADAMS

SQL> -- 24) Find the name of employee who is getting highest salary.

SQL> select ename "Name", sal "Salary"

2 from emp

3 where sal = (select max(sal) from emp);

Name Salary

---------- ----------

KING 5000

SQL> -- 25) Display the name of employee earning second highest salary.

SQL> select ename "Name", sal "Salary"

2 from emp e1

3 where 2 - 1 = (select count(distinct sal)

4 from emp e2

5 where e2.sal>e1.sal);

Name Salary

---------- ----------

SCOTT 3000

FORD 3000

SQL> -- 26) Find second highest salary in the organization.

SQL> select distinct sal "Salary"

2 from emp e1

3 where 2 - 1 = (select count(distinct sal)

4 from emp e2

5 where e2.sal>e1.sal);

Salary

----------

3000

SQL> -- 27) Find the package of each employee.

SQL> select ename "Name", sal+nvl(comm,0) "Total package"

2 from emp;

Name Total package

---------- -------------

KING 5000

BLAKE 2850

CLARK 2450

JONES 2975

SCOTT 3000

FORD 3000

SMITH 800

ALLEN 1900

WARD 1750

MARTIN 2650

TURNER 1500

ADAMS 1100

JAMES 950

MILLER 1300

14 rows selected.

SQL> -- 28) Find the names of employees whose salary is more than avg salary in department 20.

SQL> select ename "Name", sal "Salary"

2 from emp

3 where sal>(select avg(sal) from emp where deptno=20);

Name Salary

---------- ----------

KING 5000

BLAKE 2850

CLARK 2450

JONES 2975

SCOTT 3000

FORD 3000

6 rows selected.

SQL> -- 29) Find top five salaries in emp table.

SQL> select ename "Name", sal "Salary"

2 from emp

3 where rownum<=5

4 order by sal;

Name Salary

---------- ----------

CLARK 2450

BLAKE 2850

JONES 2975

SCOTT 3000

KING 5000

SQL> -- 30) Find bottom three salaries in emp table

SQL> select ename "Name", sal "Salary"

2 from (select \* from emp

3 order by sal)

4 where rownum <=3;

Name Salary

---------- ----------

SMITH 800

JAMES 950

ADAMS 1100

SQL> -- 31) Find the average salary at each department where deptno is less than 30.

SQL> select deptno "Department No", avg(sal) "Average Salary"

2 from emp

3 where deptno < 30

4 group by deptno;

Department No Average Salary

------------- --------------

20 2175

10 2916.66667

SQL> -- 32) Find 5th largest salary in emp table.

SQL> select ename "Name", sal "5th largest Salary"

2 from emp e1

3 where 5 - 1 = (select count(distinct sal)

4 from emp e2

5 where e2.sal>e1.sal);

Name 5th largest Salary

---------- ------------------

CLARK 2450

SQL> -- 33) Find the details of those employees whose sal is greater than the avg sal in emp table.

SQL> select \*

2 from emp

3 where sal > (select avg(sal) from emp);

EMPNO ENAME JOB MGR HIREDATE SAL COMM

---------- ---------- --------- ---------- --------- ---------- ----------

DEPTNO

----------

7839 KING PRESIDENT 17-NOV-81 5000

10

7698 BLAKE MANAGER 7839 01-MAY-81 2850

30

7782 CLARK MANAGER 7839 09-JUN-81 2450

10

EMPNO ENAME JOB MGR HIREDATE SAL COMM

---------- ---------- --------- ---------- --------- ---------- ----------

DEPTNO

----------

7566 JONES MANAGER 7839 02-APR-81 2975

20

7788 SCOTT ANALYST 7566 09-DEC-82 3000

20

7902 FORD ANALYST 7566 03-DEC-81 3000

20

6 rows selected.

SQL> set linesize 400;

SQL> set pagesize 400;

SQL> -- 33) Find the details of those employees whose sal is greater than the avg sal in emp table.

SQL> select \*

2 from emp

3 where sal > (select avg(sal) from emp);

EMPNO ENAME JOB MGR HIREDATE SAL COMM DEPTNO

---------- ---------- --------- ---------- --------- ---------- ---------- ----------

7839 KING PRESIDENT 17-NOV-81 5000 10

7698 BLAKE MANAGER 7839 01-MAY-81 2850 30

7782 CLARK MANAGER 7839 09-JUN-81 2450 10

7566 JONES MANAGER 7839 02-APR-81 2975 20

7788 SCOTT ANALYST 7566 09-DEC-82 3000 20

7902 FORD ANALYST 7566 03-DEC-81 3000 20

6 rows selected.

SQL> -- 33) Find the details of those employees whose sal is greater than the avg sal in emp table.

SQL> -- 32) Find 5 th largest salary in emp table.

SQL> select ename "Name", sal "5th largest Salary"

2 from emp e1

3 where 5 - 1 = (select count(distinct sal)

4 from emp e2

5 where e2.sal>e1.sal);

Name 5th largest Salary

---------- ------------------

CLARK 2450

SQL> -- 33) Find the details of those employees whose sal is greater than the avg sal in emp table.

SQL> select \*

2 from emp

3 where sal > (select avg(sal) from emp);

EMPNO ENAME JOB MGR HIREDATE SAL COMM DEPTNO

---------- ---------- --------- ---------- --------- ---------- ---------- ----------

7839 KING PRESIDENT 17-NOV-81 5000 10

7698 BLAKE MANAGER 7839 01-MAY-81 2850 30

7782 CLARK MANAGER 7839 09-JUN-81 2450 10

7566 JONES MANAGER 7839 02-APR-81 2975 20

7788 SCOTT ANALYST 7566 09-DEC-82 3000 20

7902 FORD ANALYST 7566 03-DEC-81 3000 20

6 rows selected.

SQL> -- 34) Find deptno, dname, min, max, avg and total salary in each department.

SQL> SELECT d.deptno "Department no", d.dname "Department name", min(e.sal) "Minimum salary", max(e.sal) "Maximum salary", avg(e.sal) "Average salary", sum(e.sal) "Total salary"

2 from dept d, emp e

3 WHERE d.deptno = e.deptno

4 GROUP BY d.deptno, d.dname;

Department no Department nam Minimum salary Maximum salary Average salary Total salary

------------- -------------- -------------- -------------- -------------- ------------

10 ACCOUNTING 1300 5000 2916.66667 8750

20 RESEARCH 800 3000 2175 10875

30 SALES 950 2850 1566.66667 9400

SQL> -- 35) Show the output for count function on empno, comm and \* .(Justify your answer)

SQL> select count(empno) from emp;

COUNT(EMPNO)

------------

14

SQL> -- this gives the count of all the employees in the table. And as the number of tuples= 14, therefore total 14 employees are present. They are counted on the basis of employee number.

SQL> select count(comm) from emp;

COUNT(COMM)

-----------

4

SQL> -- Count function counts the values which are not null. In the commision column only 4 values are numeric and others(10) are null as a result it only counts those tuples whose comm column value is not null and thus return us 4.

SQL> select count(\*) from emp;

COUNT(\*)

----------

14

SQL> -- this gives the number of tuples in our table and thus gives total number of tuples as answer which is 14.

SQL> -- The count(\*) and count(empno) gives same value as empno is primary key whose value can not be null as a result every tuple will have empno and thus we get 14 as answer for both.

SQL> -- 36) Find the names of managers of each employee.(display Ename, Mangername)[use self-join]

SQL> select e.ename "Employee name", m.ename "Manager Name"

2 from emp e

3 left join emp m

4 on e.mgr = m.empno;

Employee n Manager Na

---------- ----------

JONES KING

CLARK KING

BLAKE KING

JAMES BLAKE

TURNER BLAKE

MARTIN BLAKE

WARD BLAKE

ALLEN BLAKE

MILLER CLARK

FORD JONES

SCOTT JONES

ADAMS SCOTT

SMITH FORD

KING

14 rows selected.

SQL> -- 37) Find the experience of each employee.

SQL> SELECT empno "Employee no", ename "Name", hiredate "Hire-date"

2 ,

3 ROUND(MONTHS\_BETWEEN(hiredate, sysdate) / 12, 1) AS experience\_years

4 from emp;

Employee no Name Hire-date EXPERIENCE\_YEARS

----------- ---------- --------- ----------------

7839 KING 17-NOV-81 -42.8

7698 BLAKE 01-MAY-81 -43.3

7782 CLARK 09-JUN-81 -43.2

7566 JONES 02-APR-81 -43.4

7788 SCOTT 09-DEC-82 -41.7

7902 FORD 03-DEC-81 -42.7

7369 SMITH 17-DEC-80 -43.7

7499 ALLEN 20-FEB-81 -43.5

7521 WARD 22-FEB-81 -43.5

7654 MARTIN 28-SEP-81 -42.9

7844 TURNER 08-SEP-81 -43

7876 ADAMS 12-JAN-83 -41.6

7900 JAMES 03-DEC-81 -42.7

7934 MILLER 23-JAN-82 -42.6

14 rows selected.

SQL> SELECT empno "Employee no", ename "Name", hiredate "Hire-date",

2 ROUND(MONTHS\_BETWEEN(sysdate, hiredate) / 12, 1) AS experience\_years

3 from emp;

Employee no Name Hire-date EXPERIENCE\_YEARS

----------- ---------- --------- ----------------

7839 KING 17-NOV-81 42.8

7698 BLAKE 01-MAY-81 43.3

7782 CLARK 09-JUN-81 43.2

7566 JONES 02-APR-81 43.4

7788 SCOTT 09-DEC-82 41.7

7902 FORD 03-DEC-81 42.7

7369 SMITH 17-DEC-80 43.7

7499 ALLEN 20-FEB-81 43.5

7521 WARD 22-FEB-81 43.5

7654 MARTIN 28-SEP-81 42.9

7844 TURNER 08-SEP-81 43

7876 ADAMS 12-JAN-83 41.6

7900 JAMES 03-DEC-81 42.7

7934 MILLER 23-JAN-82 42.6

14 rows selected.

SQL> SELECT empno "Employee no", ename "Name", hiredate "Hire-date",

2 ROUND(MONTHS\_BETWEEN(sysdate, hiredate) / 12, 1) "Experience years"

3 from emp;

Employee no Name Hire-date Experience years

----------- ---------- --------- ----------------

7839 KING 17-NOV-81 42.8

7698 BLAKE 01-MAY-81 43.3

7782 CLARK 09-JUN-81 43.2

7566 JONES 02-APR-81 43.4

7788 SCOTT 09-DEC-82 41.7

7902 FORD 03-DEC-81 42.7

7369 SMITH 17-DEC-80 43.7

7499 ALLEN 20-FEB-81 43.5

7521 WARD 22-FEB-81 43.5

7654 MARTIN 28-SEP-81 42.9

7844 TURNER 08-SEP-81 43

7876 ADAMS 12-JAN-83 41.6

7900 JAMES 03-DEC-81 42.7

7934 MILLER 23-JAN-82 42.6

14 rows selected.

SQL> -- 38) Find the name of junior most employee.

SQL> SELECT ename "Name", hiredate "Hire-date"

2 from emp

3 where hiredate = (select max(hiredate) from emp);

Name Hire-date

---------- ---------

ADAMS 12-JAN-83

SQL> -- 39) Find the name of senior most employee.

SQL> SELECT ename "Name", hiredate "Hire-date"

2 from emp

3 where hiredate = (select min(hiredate) from emp);

Name Hire-date

---------- ---------

SMITH 17-DEC-80

SQL> -- 40) Find the deptno with highest number of employees.

SQL> select deptno "Department No", count(\*) "No of employees"

2 from emp

3 group by deptno

4 having count(\*) = (select max(count(\*))

5 from emp

6 group by deptno);

Department No No of employees

------------- ---------------

30 6

SQL> spool off;