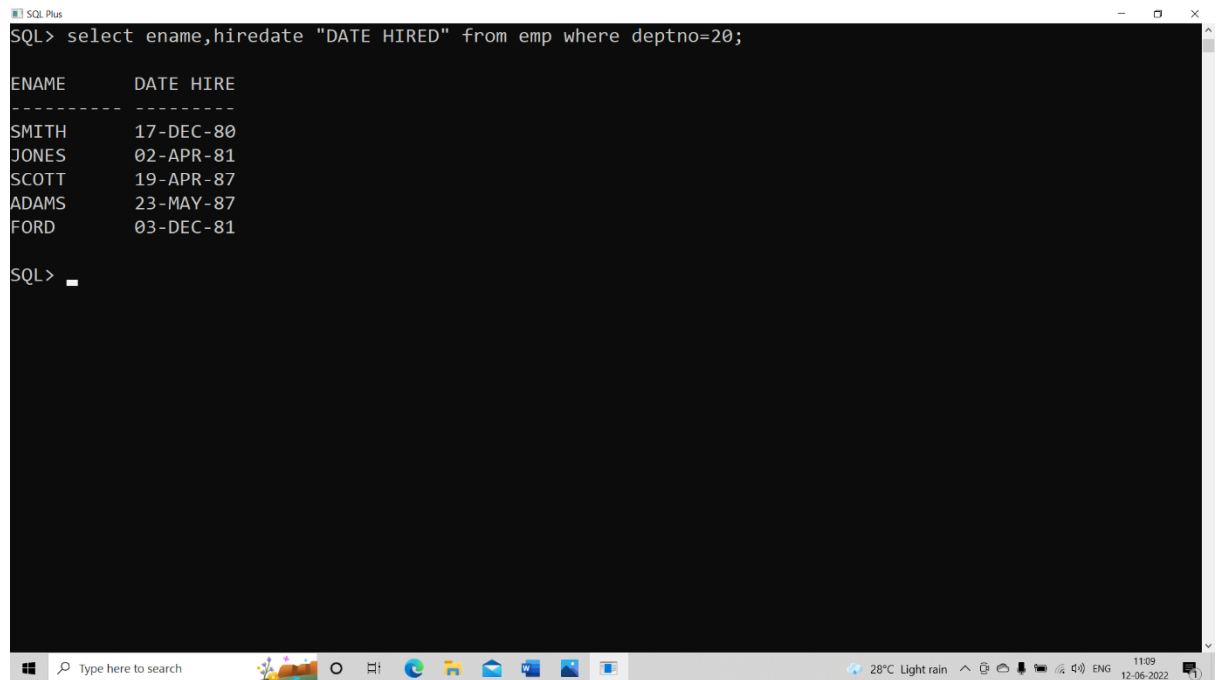


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ASSIGNMENT 2

1. Display each employee's name and hiredate from department number 20. Make sure that you specify the alias



The screenshot shows an SQL Plus window with a black background and white text. The command prompt shows the following SQL query: `SQL> select ename,hiredate "DATE HIRED" from emp where deptno=20;`. The output is a table with two columns: `ENAME` and `DATE HIRED`. The data rows are: `SMITH 17-DEC-80`, `JONES 02-APR-81`, `SCOTT 19-APR-87`, `ADAMS 23-MAY-87`, and `FORD 03-DEC-81`. The prompt `SQL>` is visible at the bottom left of the window. The Windows taskbar is visible at the bottom of the screen, showing the search bar, taskbar icons, and system tray information including temperature, weather, and time.

```
SQL> select ename,hiredate "DATE HIRED" from emp where deptno=20;
```

ENAME	DATE HIRED
SMITH	17-DEC-80
JONES	02-APR-81
SCOTT	19-APR-87
ADAMS	23-MAY-87
FORD	03-DEC-81

```
SQL>
```

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2. Display each employee's name with hiredate and salary review date.
Assume review

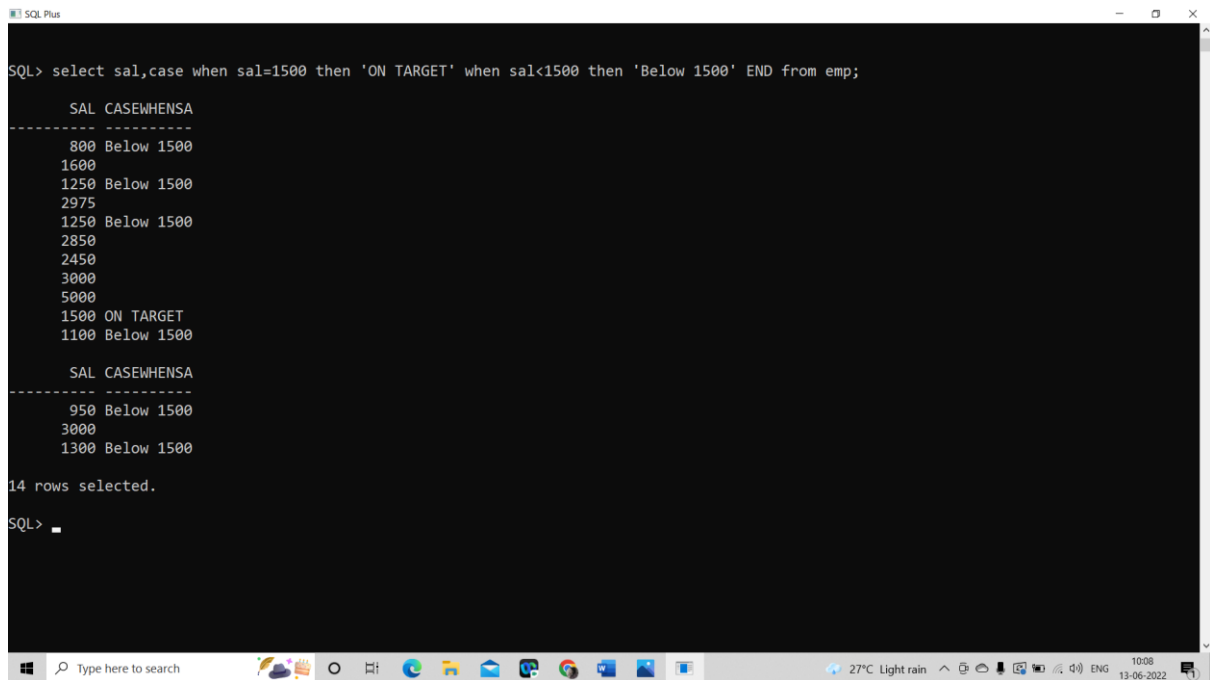
```
SQL> select ename,hiredate,to_char(add_months(hiredate,12),'DD/MM/YYYY')"SALARY REVIEW DATE" from emp;
```

ENAME	HIREDATE	SALARY REV
SMITH	17-DEC-80	17/12/1981
ALLEN	20-FEB-81	20/02/1982
WARD	22-FEB-81	22/02/1982
JONES	02-APR-81	02/04/1982
MARTIN	28-SEP-81	28/09/1982
BLAKE	01-MAY-81	01/05/1982
CLARK	09-JUN-81	09/06/1982
SCOTT	19-APR-87	19/04/1988
KING	17-NOV-81	17/11/1982
TURNER	08-SEP-81	08/09/1982
ADAMS	23-MAY-87	23/05/1988
JAMES	03-DEC-81	03/12/1982
FORD	03-DEC-81	03/12/1982
MILLER	23-JAN-82	23/01/1983

```
14 rows selected.  
SQL>
```

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3. Print a list of employees displaying just salary if more than 1500. If exactly 1500 then display 'On Target', if less than 1500 then display 'below 1500'.



The screenshot shows a SQL Plus window with a black background and white text. The command prompt is 'SQL>'. The query entered is 'select sal,case when sal=1500 then 'ON TARGET' when sal<1500 then 'Below 1500' END from emp;'. The output shows 14 rows. The first 13 rows have a salary of 800, 1600, 1250, 2975, 1250, 2850, 2450, 3000, 5000, 1500, and 1100. The 14th row has a salary of 950. The output for each row is 'SAL CASEWHENSA' followed by the salary and the corresponding status. The status is 'Below 1500' for salaries less than 1500, 'ON TARGET' for salary 1500, and 'Below 1500' for salary 1100. The output for the 14th row is '950 Below 1500'. The command prompt is 'SQL>'.

```
SQL> select sal,case when sal=1500 then 'ON TARGET' when sal<1500 then 'Below 1500' END from emp;

SAL CASEWHENSA
-----
800 Below 1500
1600
1250 Below 1500
2975
1250 Below 1500
2850
2450
3000
5000
1500 ON TARGET
1100 Below 1500

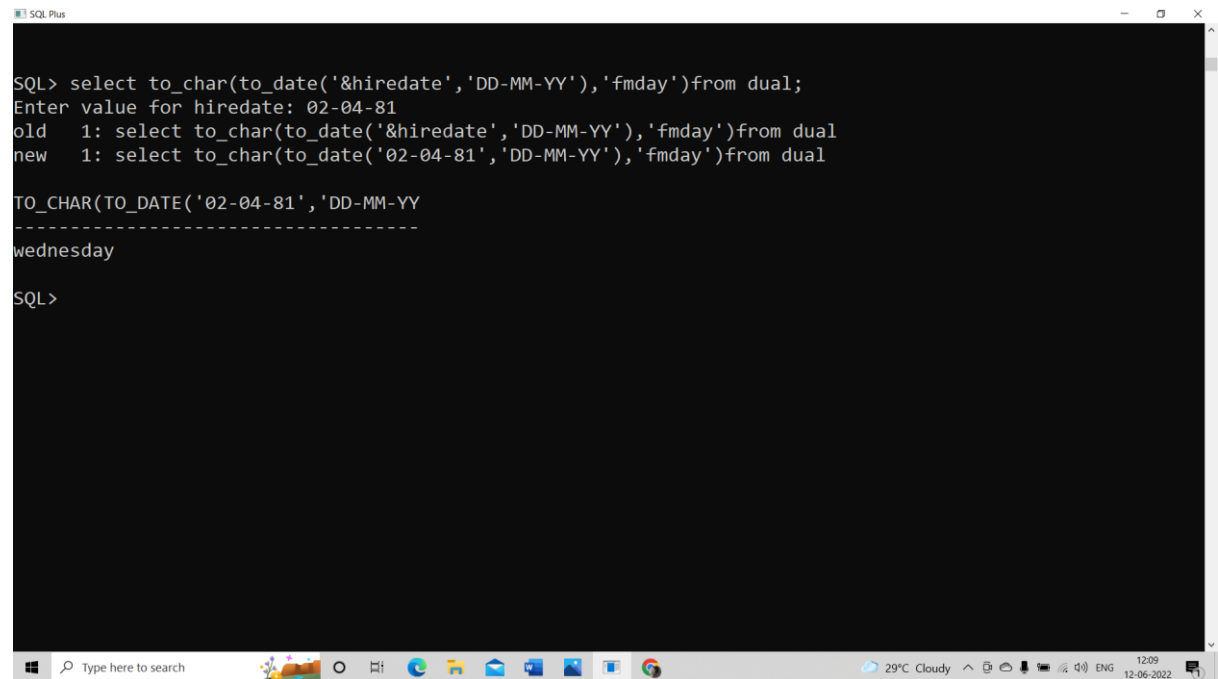
SAL CASEWHENSA
-----
950 Below 1500
3000
1300 Below 1500

14 rows selected.

SQL>
```

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4. Write a query, which will return the day of the week for any date entered in the format dd.mm.yy



```
SQL> select to_char(to_date('&hiredate','DD-MM-YY'),'fmday')from dual;
Enter value for hiredate: 02-04-81
old 1: select to_char(to_date('&hiredate','DD-MM-YY'),'fmday')from dual
new 1: select to_char(to_date('02-04-81','DD-MM-YY'),'fmday')from dual

TO_CHAR(TO_DATE('02-04-81','DD-MM-YY
-----
wednesday

SQL>
```

The screenshot shows a Windows desktop with a taskbar at the bottom. The taskbar includes a search bar, several application icons (like File Explorer, Edge, Word, etc.), and system tray icons showing weather (29°C Cloudy) and time (12:09, 12-06-2022). The main window is a black terminal titled 'SQL Plus'. It displays an SQL query to find the day of the week for a date entered in 'dd-mm-yy' format. The user enters '02-04-81', and the output shows 'wednesday'.

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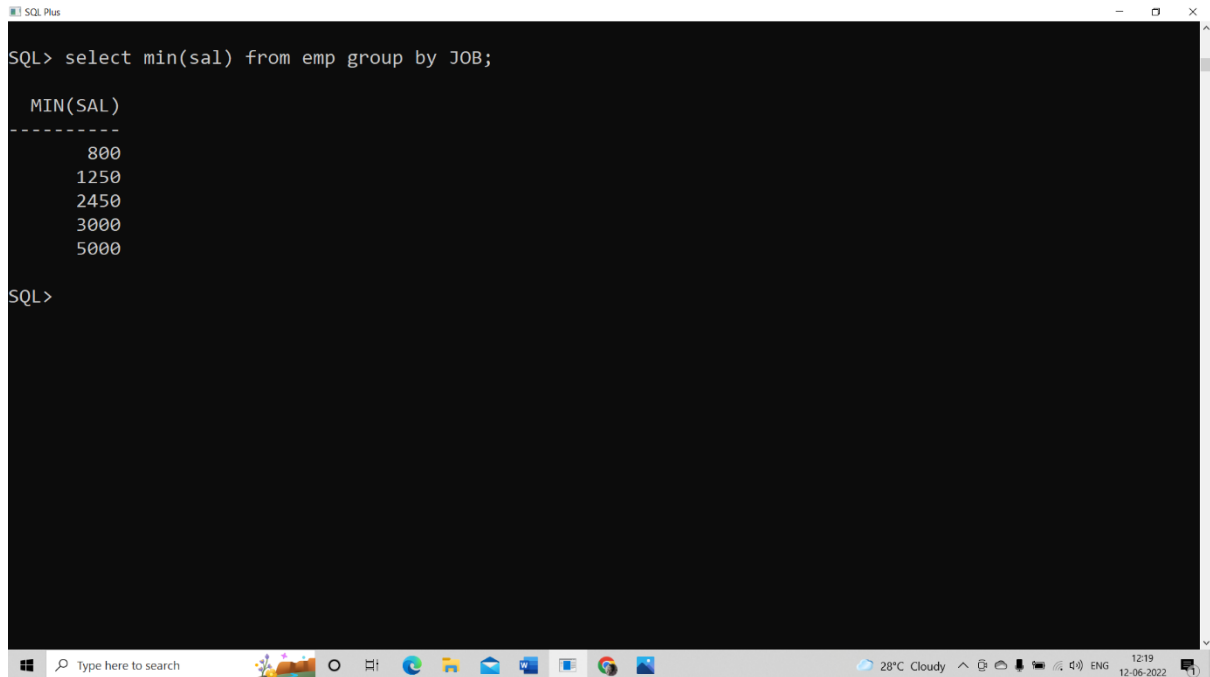
5. Employees hired on or before that 15th of any month are paid on the last Friday of that month. Those hired after 15th are paid the first Friday of the following month. Print the list of employees and their hire date and the first pay date. Sort on hire date.

```
MySQL 8.0 Command Line Client
mysql> SELECT empno,ename,hiredate,
-> CASE
-> WHEN DAY(hiredate) <= 15 THEN 'Last Friday'
-> ELSE 'First Friday'
-> END AS 'PayDate'
-> FROM emp;
+-----+-----+-----+-----+
| empno | ename | hiredate | PayDate |
+-----+-----+-----+-----+
| 7369 | SMITH | 1980-12-17 | First Friday |
| 7499 | ALLEN | 1981-02-20 | First Friday |
| 7521 | WARD | 1981-02-22 | First Friday |
| 7566 | JONES | 1981-04-02 | Last Friday |
| 7654 | MARTIN | 1981-09-28 | First Friday |
| 7698 | BLAKE | 1981-05-01 | Last Friday |
| 7782 | CLARK | 1981-06-09 | Last Friday |
| 7788 | SCOTT | 1982-12-09 | Last Friday |
| 7839 | KING | 1981-11-17 | First Friday |
| 7844 | TURNER | 1981-09-08 | Last Friday |
| 7876 | ADAMS | 1983-01-12 | Last Friday |
| 7900 | JAMES | 1981-12-03 | Last Friday |
| 7902 | FORD | 1981-12-03 | Last Friday |
| 7934 | MILLER | 1982-01-23 | First Friday |
+-----+-----+-----+-----+
14 rows in set (0.00 sec)

mysql>
```

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6. Find the minimum salary of all employees.



The screenshot shows a SQL Plus terminal window with a black background and white text. The user has entered the command 'select min(sal) from emp group by JOB;'. The output is displayed in a table format with a header 'MIN(SAL)' and five rows of values: 800, 1250, 2450, 3000, and 5000. The terminal window is titled 'SQL Plus' and has standard window controls. The Windows taskbar is visible at the bottom, showing the search bar, taskbar icons, and system tray with the date and time '12:19 12-06-2022'.

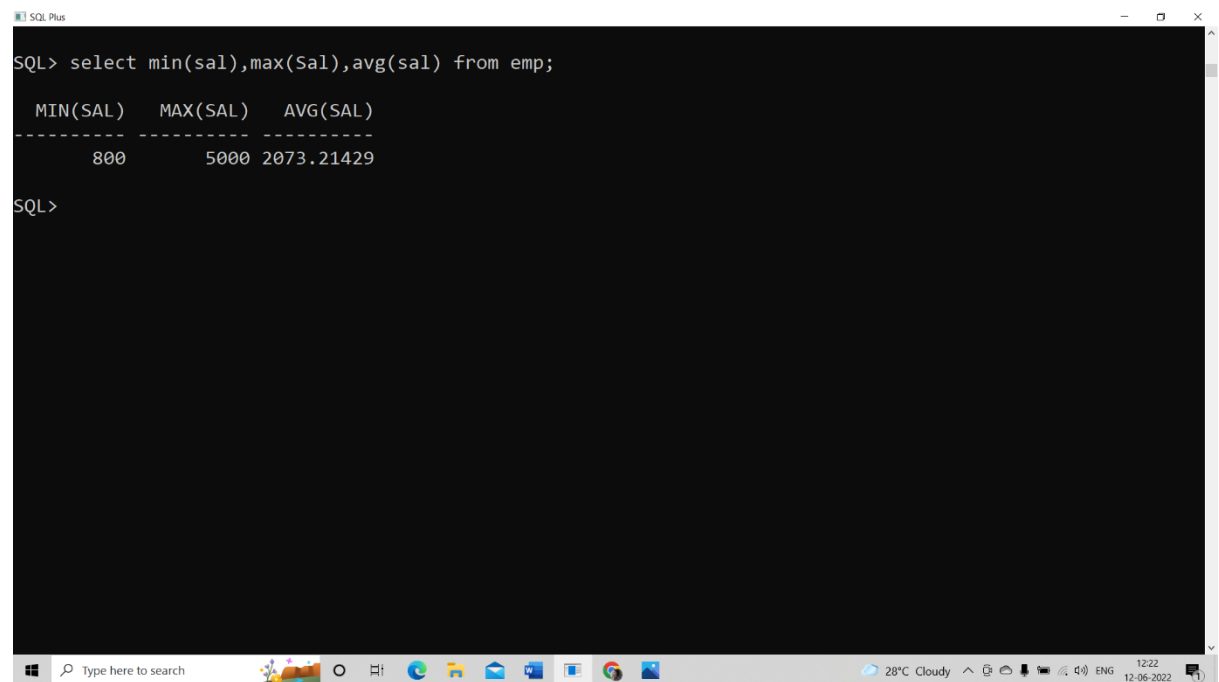
```
SQL> select min(sal) from emp group by JOB;
```

MIN(SAL)
800
1250
2450
3000
5000

```
SQL>
```

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7. Find the minimum, maximum and average salaries.



```
SQL> select min(sal),max(sal),avg(sal) from emp;
```

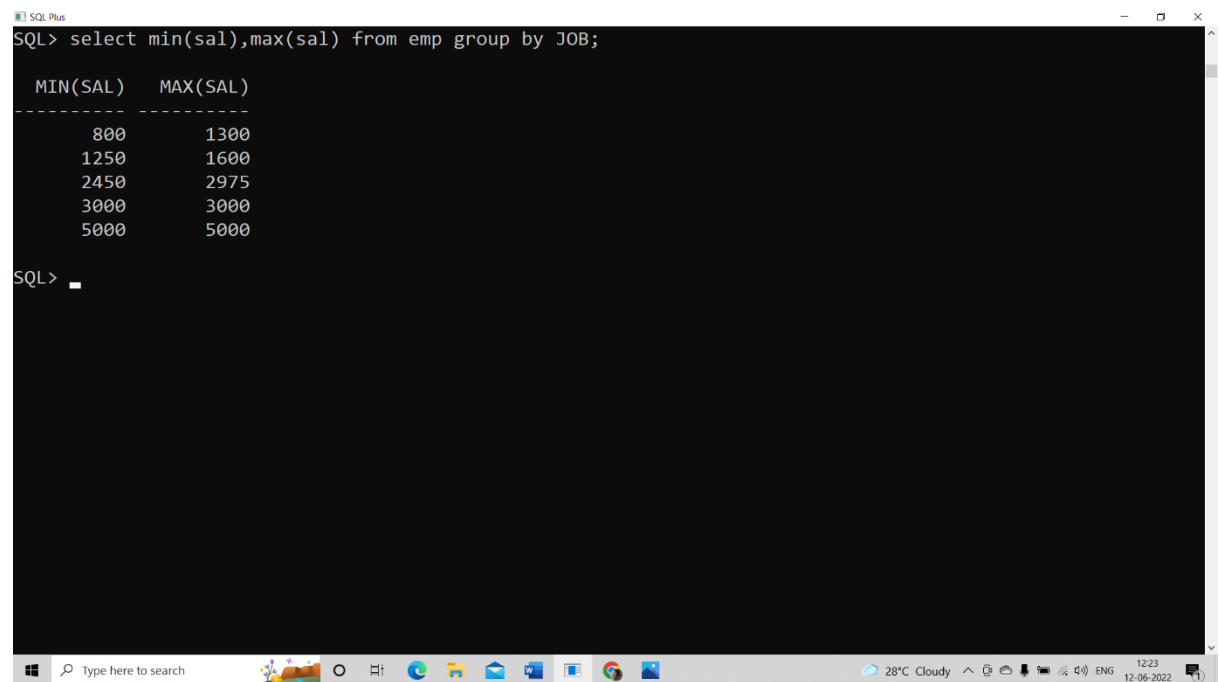
MIN(SAL)	MAX(SAL)	AVG(SAL)
800	5000	2073.21429

```
SQL>
```

The screenshot shows a Windows desktop with a taskbar at the bottom. The taskbar includes the Start button, a search bar, and several application icons. The system tray on the right shows the date and time as 12:22 on 12-06-2022, along with weather and network status icons.

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8. List the minimum and maximum salary for each job type.



The screenshot shows an SQL Plus terminal window with the following content:

```
SQL> select min(sal),max(sal) from emp group by JOB;
```

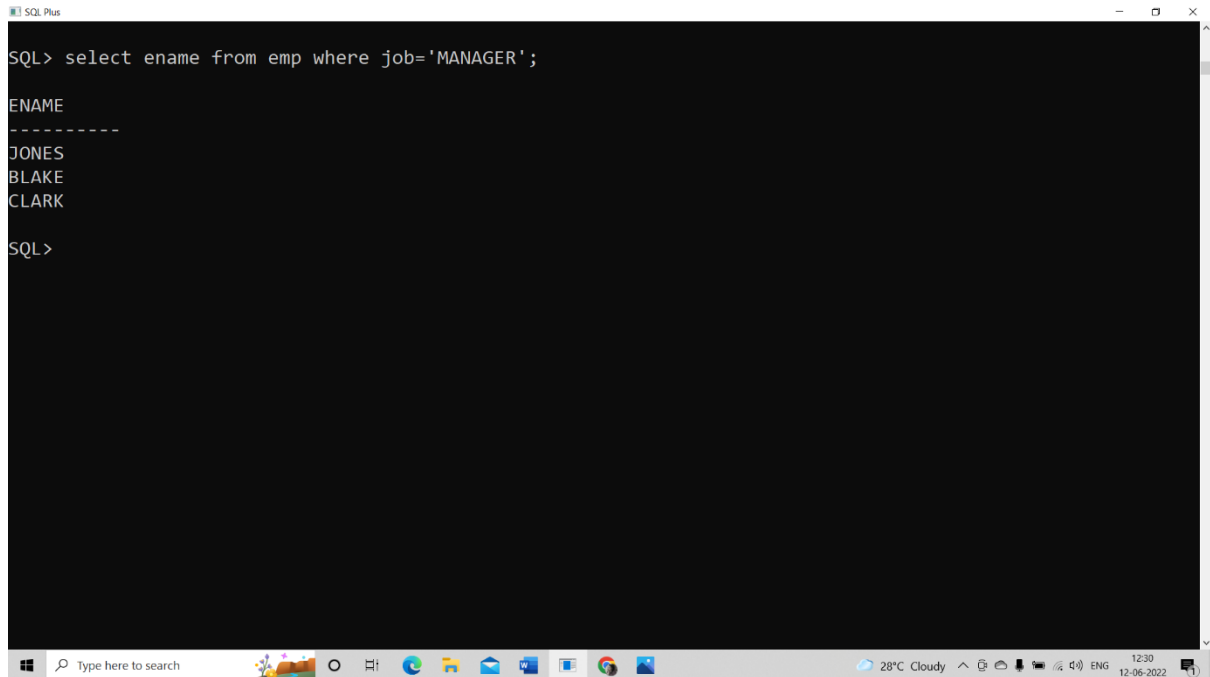
MIN(SAL)	MAX(SAL)
800	1300
1250	1600
2450	2975
3000	3000
5000	5000

SQL> █

The terminal window is titled "SQL Plus" and has standard window controls. The Windows taskbar is visible at the bottom, showing the search bar, taskbar icons, and system tray with the date and time (12:23, 12-06-2022).

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9. Find out how many managers are there without listing them.



The screenshot shows a terminal window titled "SQL Plus" with a black background and white text. The user has entered the SQL command: `SQL> select count(*) from emp where job='MANAGER';`. The output of the query is displayed as follows:

```
SQL> select count(*) from emp where job='MANAGER';

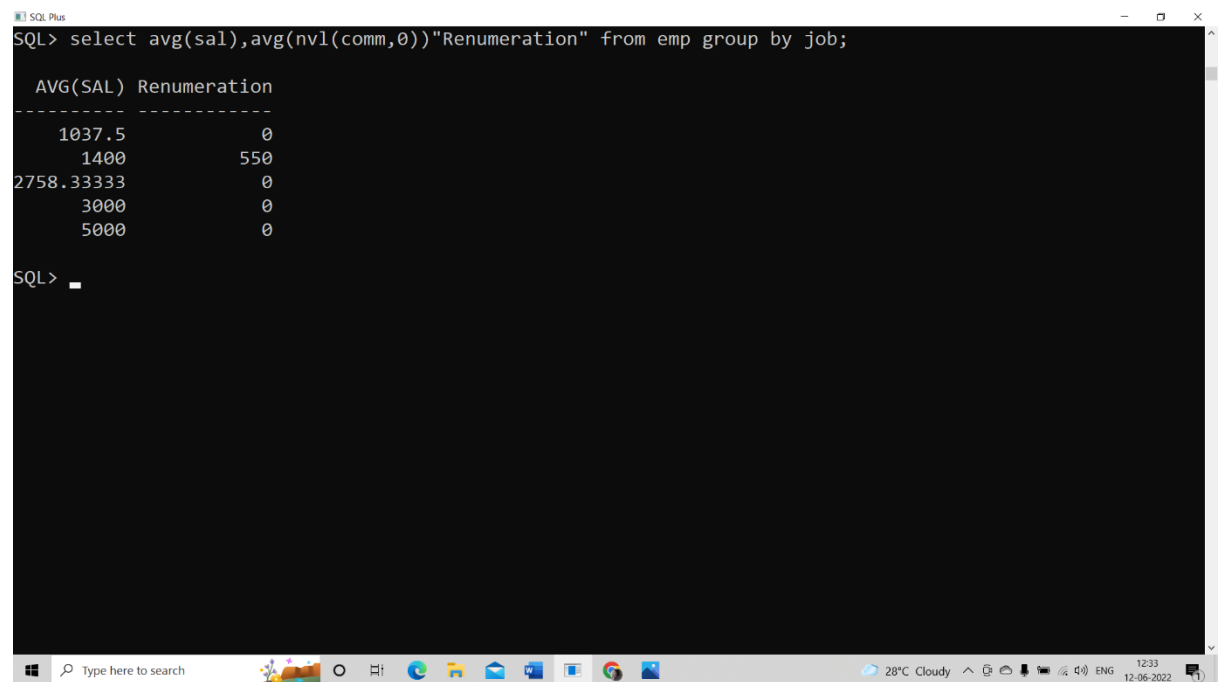
COUNT(*)
-----
        3

SQL>
```

The Windows taskbar is visible at the bottom of the screen, showing the search bar, taskbar icons, and system tray information including the date and time (12:30, 12-06-2022).

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10. Find out the average salary and total remuneration for each job type.



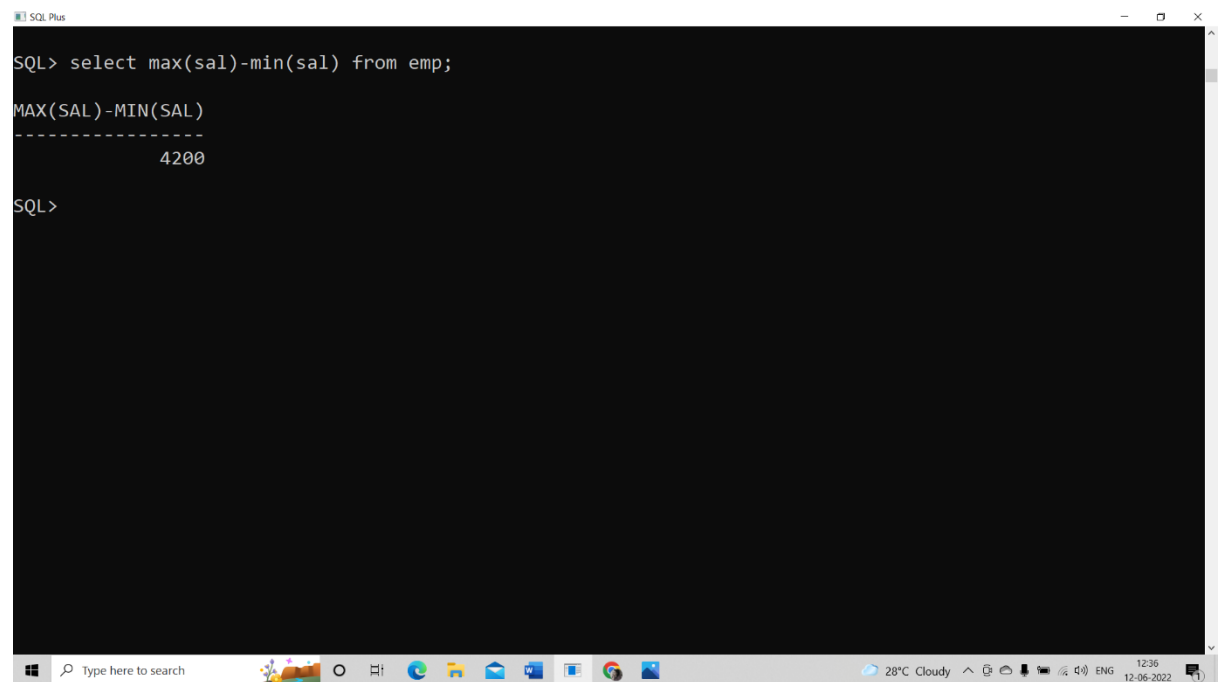
The screenshot shows an SQL Plus terminal window with a black background and white text. The query entered is `SQL> select avg(sal),avg(nvl(comm,0))"Renumeration" from emp group by job;`. The output is a table with two columns: `AVG(SAL)` and `Renumeration`. The results are as follows:

AVG(SAL)	Renumeration
1037.5	0
1400	550
2758.33333	0
3000	0
5000	0

The terminal window also shows the prompt `SQL> _` at the bottom. The Windows taskbar is visible at the bottom of the screen, showing the search bar, taskbar icons, and system tray with the date and time (12:33, 12-06-2022).

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11. Find out the difference between highest and lowest salaries.



```
SQL> select max(sal)-min(sal) from emp;

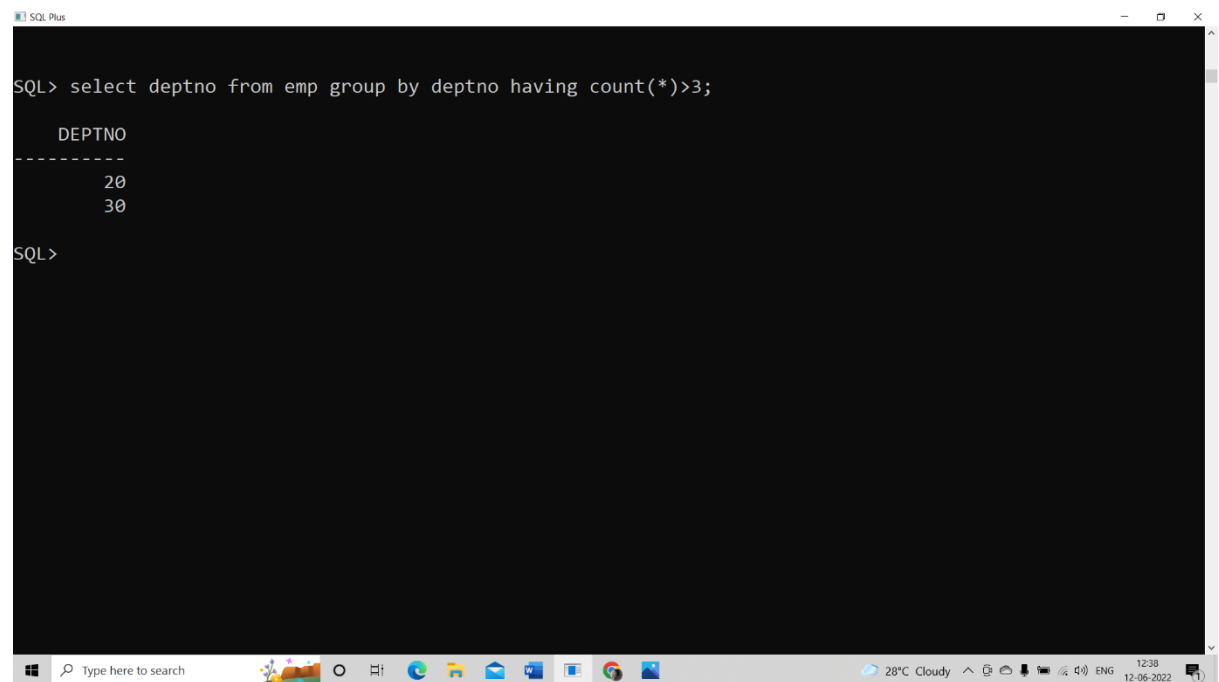
MAX(SAL)-MIN(SAL)
-----
          4200

SQL>
```

The screenshot shows a Windows desktop with a taskbar at the bottom. The taskbar includes a search bar, several application icons (including Edge, File Explorer, and Word), and a system tray on the right showing the date and time as 12:36 on 12-06-2022. The main window is a black terminal titled 'SQL Plus'. It displays the command 'select max(sal)-min(sal) from emp;' and the output 'MAX(SAL)-MIN(SAL)' followed by a dashed line and the value '4200'. The prompt 'SQL>' is visible at the bottom of the terminal.

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12. Find all departments, which have more than 3 employees.



The screenshot shows a terminal window titled "SQL Plus" with a black background and white text. The prompt "SQL>" is followed by the query "select deptno from emp group by deptno having count(*)>3;". The output shows the column "DEPTNO" with a dashed line separator, followed by the values "20" and "30". The prompt "SQL>" appears again. The Windows taskbar is visible at the bottom, showing the search bar, taskbar icons, system tray, and date/time (12:38, 12-06-2022).

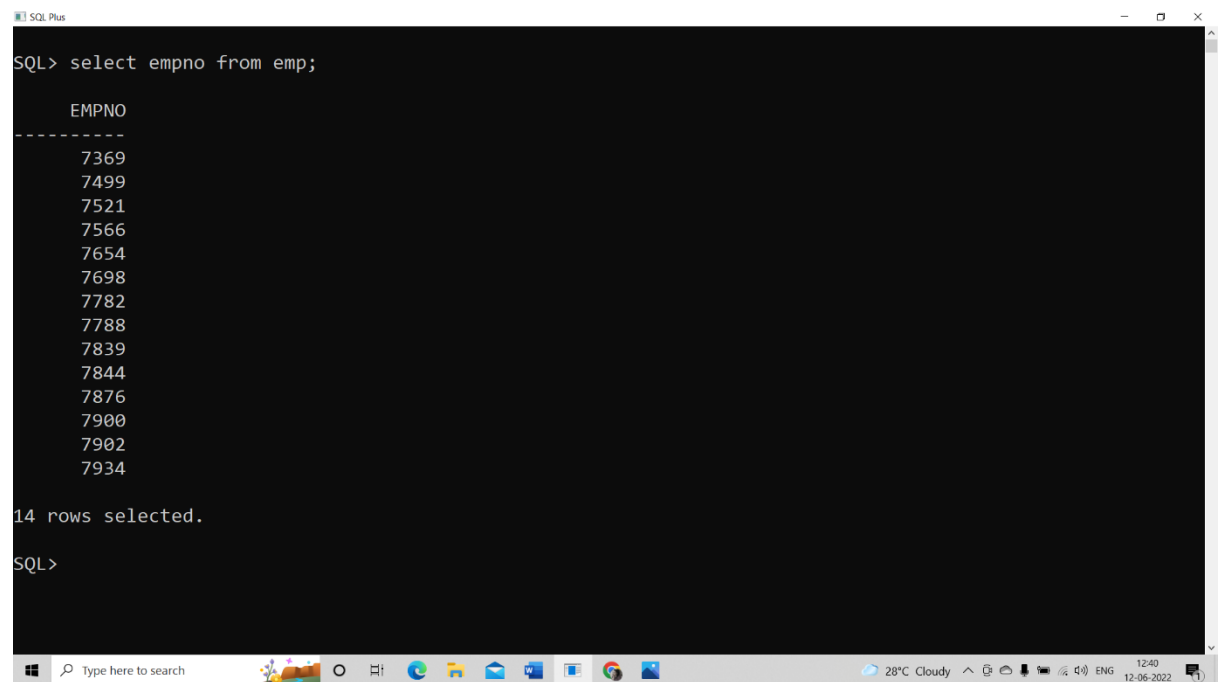
```
SQL> select deptno from emp group by deptno having count(*)>3;

  DEPTNO
-----
      20
      30

SQL>
```

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13. Check whether all employee numbers are indeed unique.



The screenshot shows a SQL Plus terminal window with the following content:

```
SQL> select empno from emp;
```

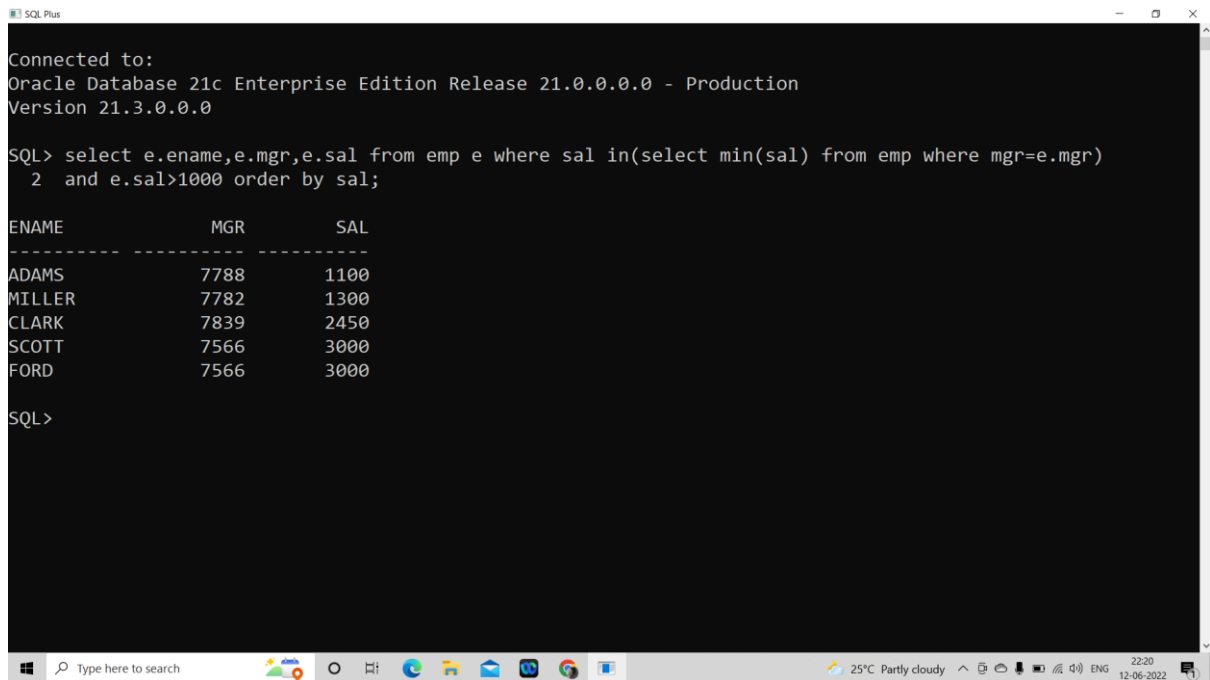
EMPNO
7369
7499
7521
7566
7654
7698
7782
7788
7839
7844
7876
7900
7902
7934

14 rows selected.
SQL>

The terminal window is titled "SQL Plus" and has standard window controls. The Windows taskbar is visible at the bottom, showing the search bar, taskbar icons, and system tray with the date and time (12:40, 12-06-2022).

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14. List the lowest paid employees working for each manager. Exclude any groups where the minimum salary is less than 1000. Sort the output by salary.



```
SQL*Plus
Connected to:
Oracle Database 21c Enterprise Edition Release 21.0.0.0.0 - Production
Version 21.3.0.0.0

SQL> select e.ename,e.mgr,e.sal from emp e where sal in(select min(sal) from emp where mgr=e.mgr)
  2  and e.sal>1000 order by sal;
```

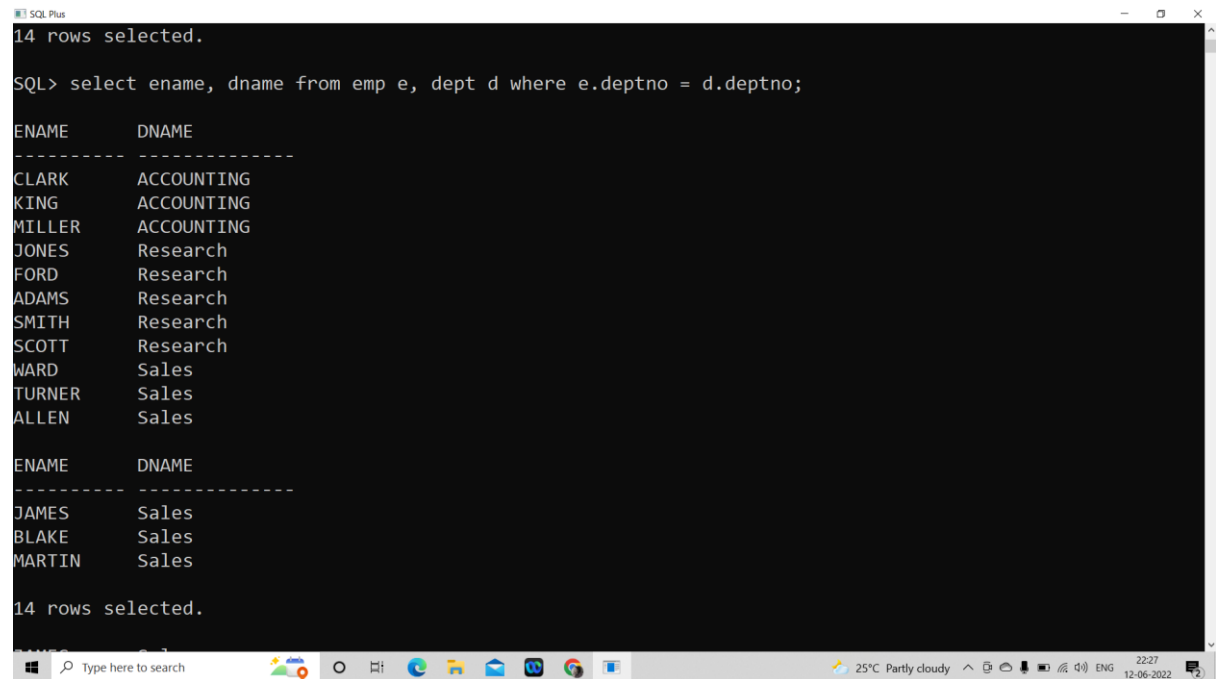
ENAME	MGR	SAL
ADAMS	7788	1100
MILLER	7782	1300
CLARK	7839	2450
SCOTT	7566	3000
FORD	7566	3000

```
SQL>
```

The screenshot shows a Windows taskbar at the bottom with the search bar, taskbar icons, and system tray. The system tray displays the weather as 25°C Partly cloudy, the time as 22:20, and the date as 12-06-2022.

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15. Display all employee names and their department names, in the order of department name.



```
SQL Plus
14 rows selected.

SQL> select ename, dname from emp e, dept d where e.deptno = d.deptno;

ENAME      DNAME
-----
CLARK      ACCOUNTING
KING      ACCOUNTING
MILLER     ACCOUNTING
JONES      Research
FORD       Research
ADAMS      Research
SMITH      Research
SCOTT      Research
WARD       Sales
TURNER     Sales
ALLEN      Sales

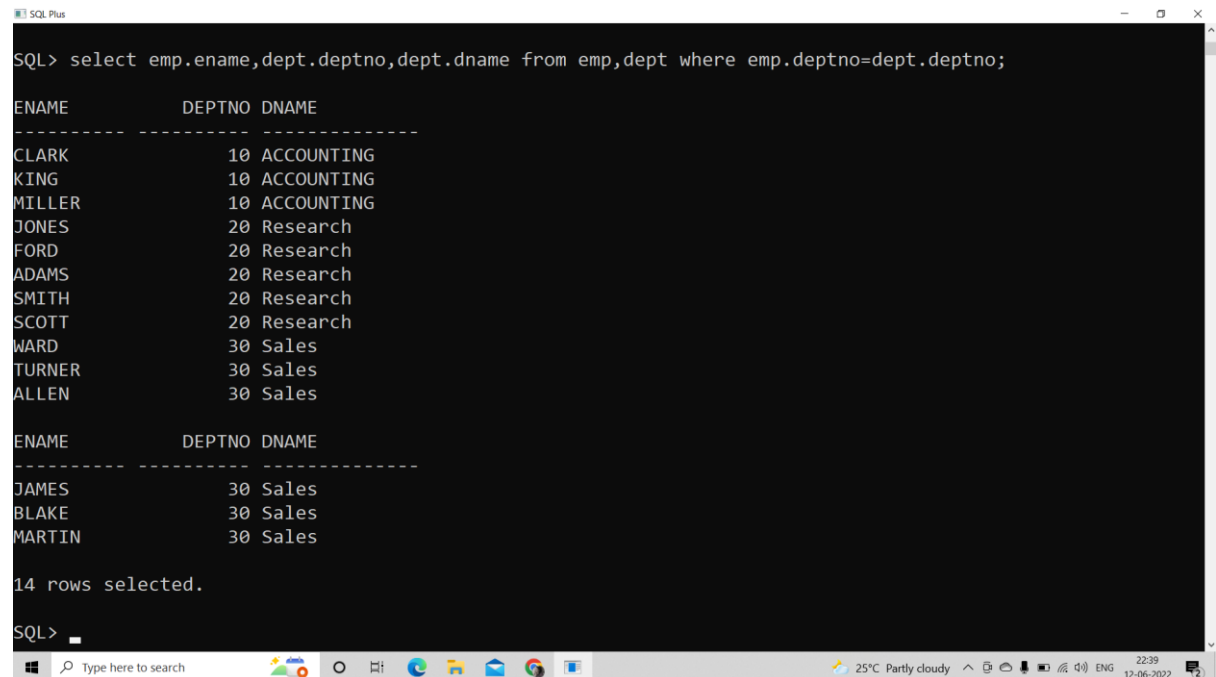
ENAME      DNAME
-----
JAMES      Sales
BLAKE      Sales
MARTIN     Sales

14 rows selected.
```

The screenshot shows a Windows desktop with a taskbar at the bottom. The taskbar includes a search bar, several application icons (including Edge, File Explorer, and Teams), and a system tray on the right showing the date and time as 22:27 on 12-06-2022. The main window is a terminal titled 'SQL Plus' with a black background and white text. It displays the output of an SQL query that joins the 'emp' and 'dept' tables. The results are shown in two tables, one for each department: Accounting, Research, and Sales. Each table lists the employee names (ENAME) and their corresponding department names (DNAME). The query is: 'select ename, dname from emp e, dept d where e.deptno = d.deptno;'. The output shows 14 rows selected.

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16. Display all employee names, department number and department name.



```
SQL> select emp.ename,dept.deptno,dept.dname from emp,dept where emp.deptno=dept.deptno;
```

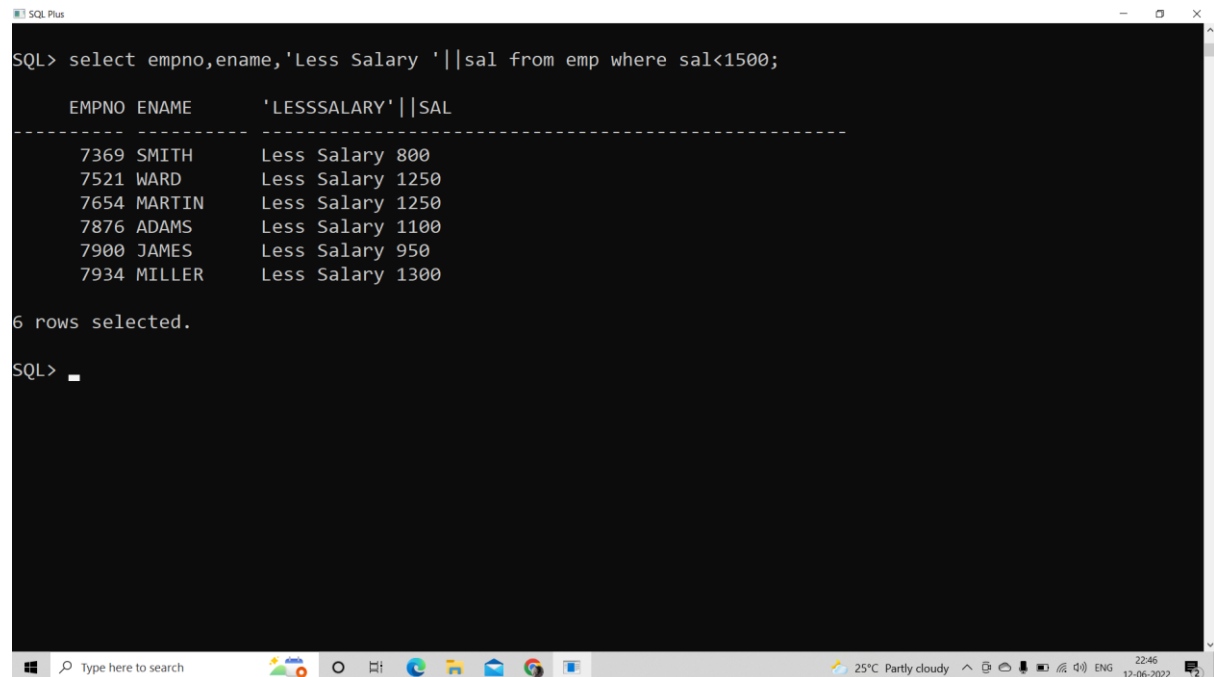
ENAME	DEPTNO	DNAME
CLARK	10	ACCOUNTING
KING	10	ACCOUNTING
MILLER	10	ACCOUNTING
JONES	20	Research
FORD	20	Research
ADAMS	20	Research
SMITH	20	Research
SCOTT	20	Research
WARD	30	Sales
TURNER	30	Sales
ALLEN	30	Sales
JAMES	30	Sales
BLAKE	30	Sales
MARTIN	30	Sales

14 rows selected.

```
SQL>
```


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17. Display the name, location and department of employees whose salary is more than 1500 a month.



The screenshot shows a SQL Plus terminal window with a black background and white text. The terminal displays a query and its results. The query is: `SQL> select empno,ename,'Less Salary '||sal from emp where sal<1500;`. The results are displayed in a table with three columns: EMPNO, ENAME, and 'LESSSALARY' || SAL. The table contains six rows of data. Below the table, it says "6 rows selected." and the prompt "SQL> " is visible.

```
SQL> select empno,ename,'Less Salary '||sal from emp where sal<1500;
```

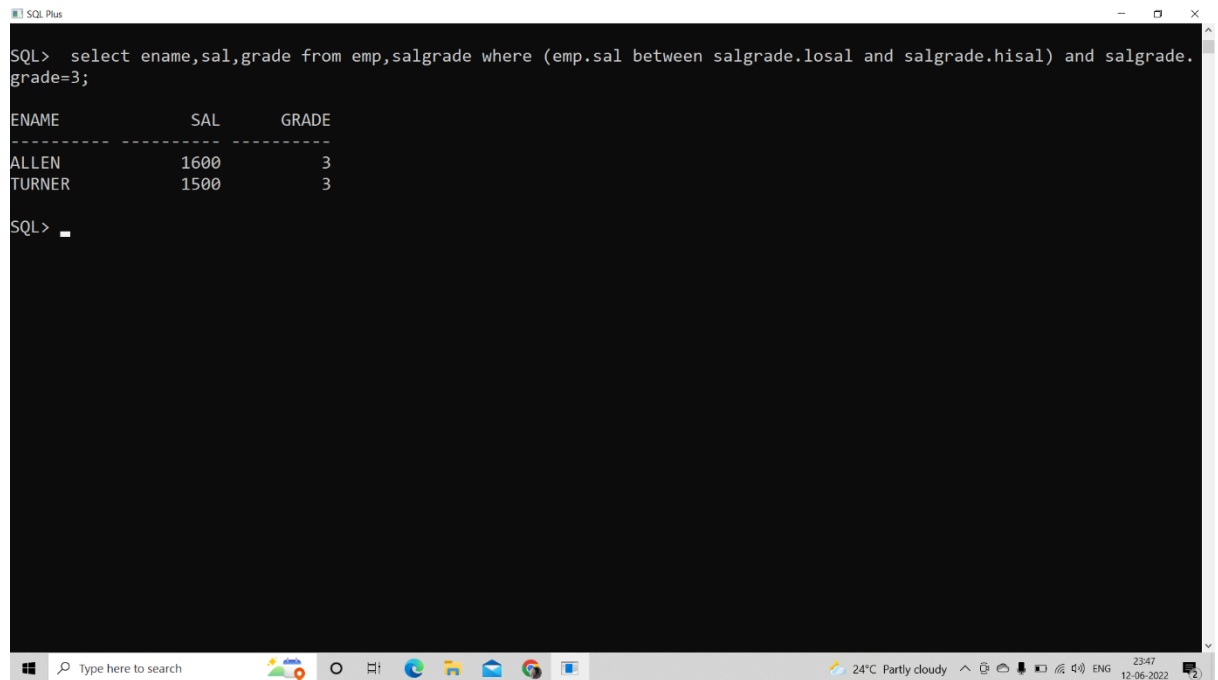
EMPNO	ENAME	'LESSSALARY' SAL
7369	SMITH	Less Salary 800
7521	WARD	Less Salary 1250
7654	MARTIN	Less Salary 1250
7876	ADAMS	Less Salary 1100
7900	JAMES	Less Salary 950
7934	MILLER	Less Salary 1300

6 rows selected.

SQL>

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18.Show only employees on grade 3.



The screenshot shows a SQL Plus terminal window with the following content:

```
SQL> select ename,sal,grade from emp,salgrade where (emp.sal between salgrade.losal and salgrade.hisal) and salgrade.  
grade=3;
```

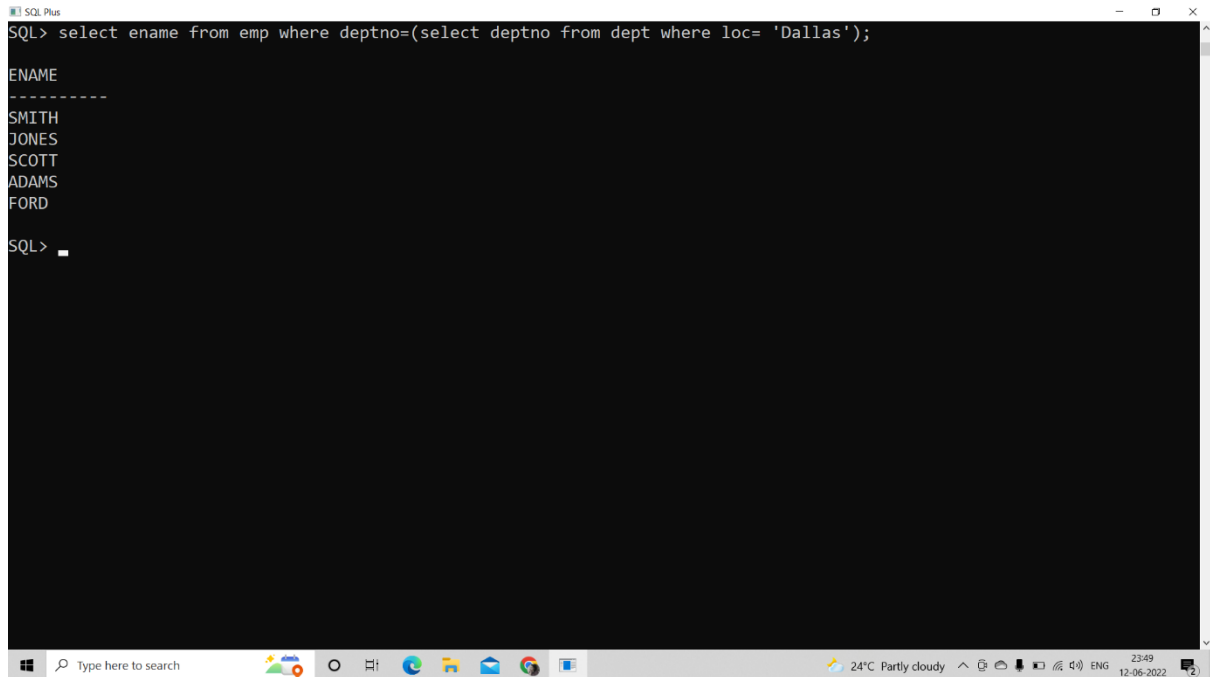
ENAME	SAL	GRADE
ALLEN	1600	3
TURNER	1500	3

SQL> _

The terminal window is titled "SQL Plus" and has standard window controls. The Windows taskbar is visible at the bottom, showing the search bar, taskbar icons, and system tray with weather and date information.

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19.Show all employees in 'Dallas'.



```
SQL> select ename from emp where deptno=(select deptno from dept where loc= 'Dallas');

ENAME
-----
SMITH
JONES
SCOTT
ADAMS
FORD
SQL>
```

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20. List the employee name, job, salary, and grade and department name for everyone in the company except clerks. Sort on salary, displaying the highest salary first.

```
SQL> select empno, ename, sal, dname, grade from emp e, dept d, salgrade s where e.deptno=d.deptno
2 and e.sal between s.losal and s.hisal and e.job<>'CLERK' order by sal;
```

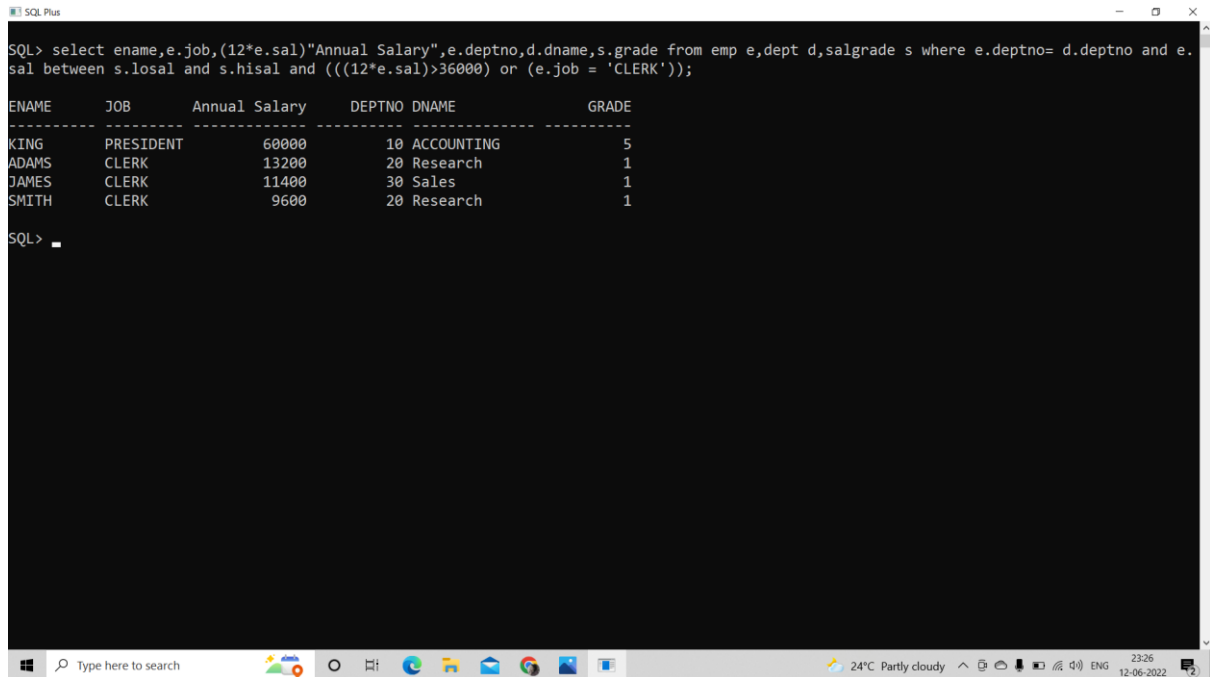
EMPNO	ENAME	SAL	DNAME	GRADE
7844	TURNER	1500	Sales	3
7499	ALLEN	1600	Sales	3
7782	CLARK	2450	ACCOUNTING	4
7698	BLAKE	2850	Sales	4
7566	JONES	2975	Research	4
7902	FORD	3000	Research	4
7788	SCOTT	3000	Research	4
7839	KING	5000	ACCOUNTING	5

8 rows selected.

```
SQL>
```

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21. List the details of employees who earn 36000 a year or who are clerks.



The screenshot shows a SQL Plus window with a query executed. The query filters employees by department and salary, or by job title. The results are displayed in a table format with columns for employee name, job, annual salary, department number, department name, and grade.

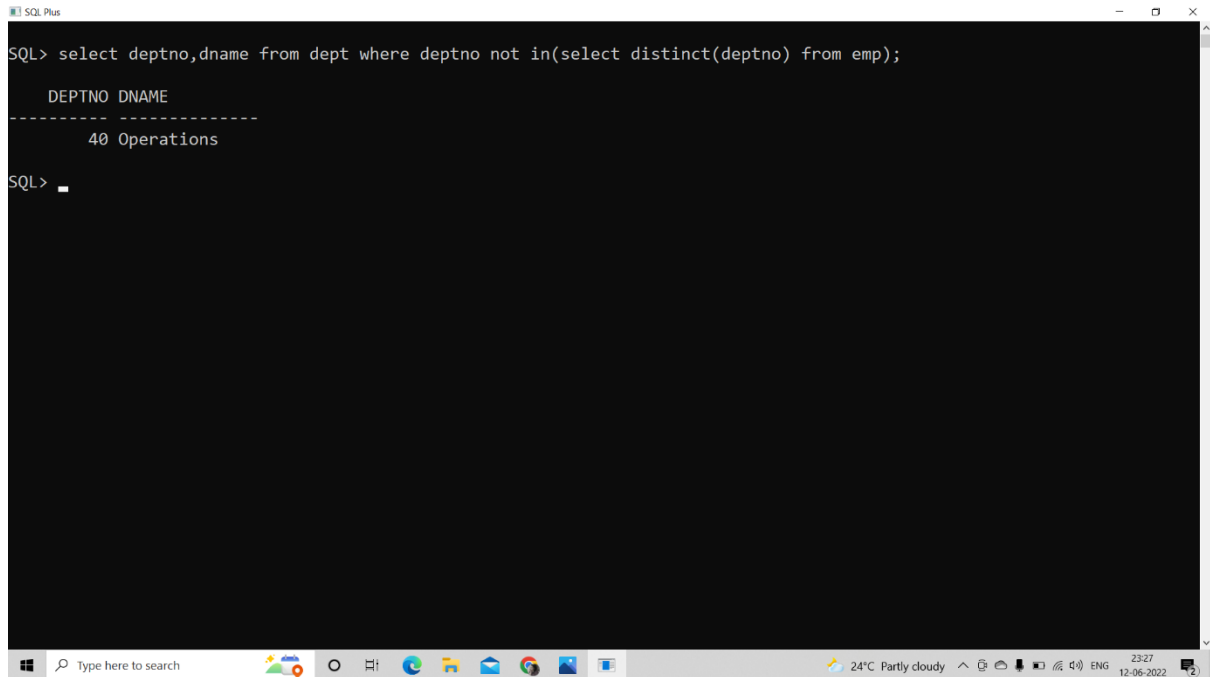
```
SQL> select ename,e.job,(12*e.sal)"Annual Salary",e.deptno,d.dname,s.grade from emp e,dept d,salgrade s where e.deptno= d.deptno and e.sal between s.losal and s.hisal and (((12*e.sal)>36000) or (e.job = 'CLERK'));
```

ENAME	JOB	Annual Salary	DEPTNO	DNAME	GRADE
KING	PRESIDENT	60000	10	ACCOUNTING	5
ADAMS	CLERK	13200	20	Research	1
JAMES	CLERK	11400	30	Sales	1
SMITH	CLERK	9600	20	Research	1

SQL>

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22.Display the department that has no employees.



The screenshot shows a Windows desktop with a terminal window titled "SQL Plus". The terminal displays the following SQL query and its output:

```
SQL> select deptno,dname from dept where deptno not in(select distinct(deptno) from emp);
```

DEPTNO	DNAME
40	Operations

The output shows a single row with department number 40 and name "Operations". Below the table, it says "40 Operations". The terminal prompt "SQL>" is visible at the bottom left of the window. The Windows taskbar at the bottom shows the search bar, taskbar icons, and system tray with the date "23/07/2022" and time "23:27".

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23. Find the employees who earn the highest salary in each job type. Sort in descending salary order.

```
SQL> select * from emp where sal in
2  (select max(sal) from emp group by job)
3  order by sal desc;
```

EMPNO	ENAME	JOB	MGR	HIREDATE	SAL	COMM	DEPTNO
7839	KING	PRESIDENT		17-NOV-81	5000		10
7902	FORD	ANALYST	7566	03-DEC-81	3000		20
7788	SCOTT	ANALYST	7566	19-APR-87	3000		20
7566	JONES	MANAGER	7839	02-APR-81	2975		20
7499	ALLEN	SALESMAN	7698	20-FEB-81	1600	300	30
7934	MILLER	CLERK	7782	23-JAN-82	1300		10

6 rows selected.

```
SQL>
```

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24. Find the most recently hired employees in each department ordered by hire date.

```
SQL> select * from emp e where hiredate in
2  (select max(hiredate) from emp where e.deptno = deptno )
3  order by hiredate;
```

EMPNO	ENAME	JOB	MGR	HIREDATE	SAL	COMM	DEPTNO
7900	JAMES	CLERK	7698	03-DEC-81	950		30
7934	MILLER	CLERK	7782	23-JAN-82	1300		10
7876	ADAMS	CLERK	7788	23-MAY-87	1100		20

```
SQL>
```


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25. Display the details of employees hired between Jan and June.

```
SQL Plus
8 rows selected.

SQL> set linesize 100
SQL> set pagesize 100
SQL> select * from emp where extract(month from hiredate) between 1 and 6;
```

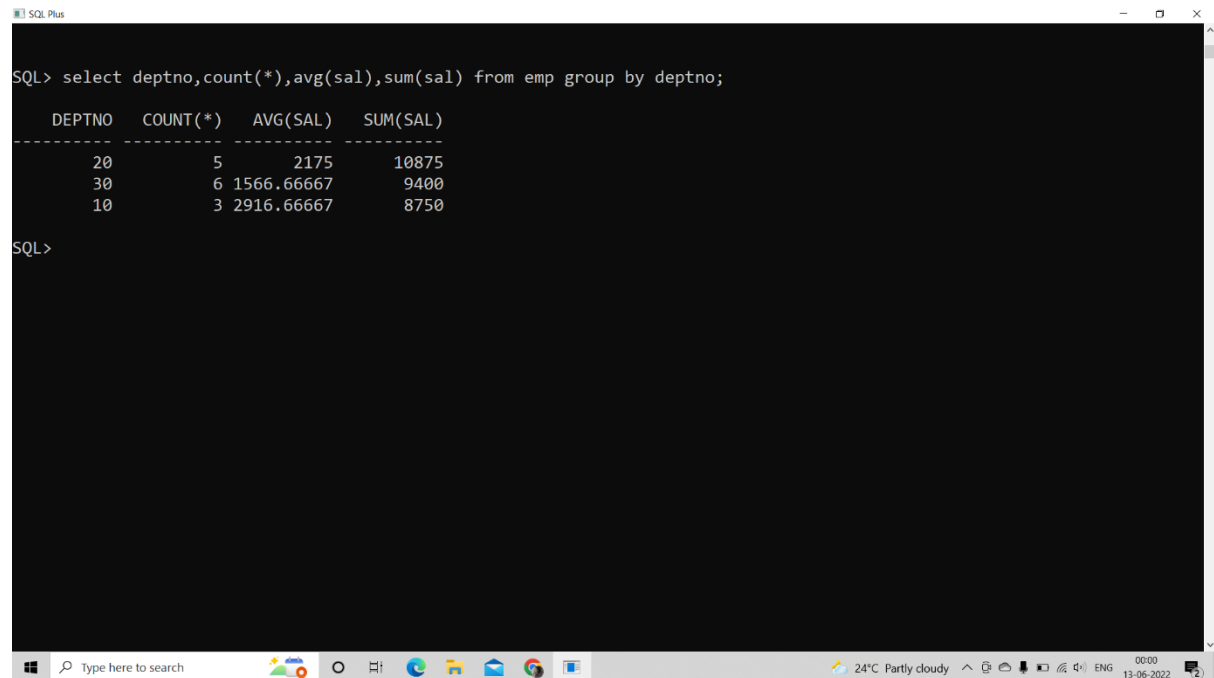
EMPNO	ENAME	JOB	MGR	HIREDATE	SAL	COMM	DEPTNO
7499	ALLEN	SALESMAN	7698	20-FEB-81	1600	300	30
7521	WARD	SALESMAN	7698	22-FEB-81	1250	500	30
7566	JONES	MANAGER	7839	02-APR-81	2975		20
7698	BLAKE	MANAGER	7839	01-MAY-81	2850		30
7782	CLARK	MANAGER	7839	09-JUN-81	2450		10
7788	SCOTT	ANALYST	7566	19-APR-87	3000		20
7876	ADAMS	CLERK	7788	23-MAY-87	1100		20
7934	MILLER	CLERK	7782	23-JAN-82	1300		10

```
8 rows selected.

SQL>
```

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26. Display the count, total salary and average salary of all employees in each department.



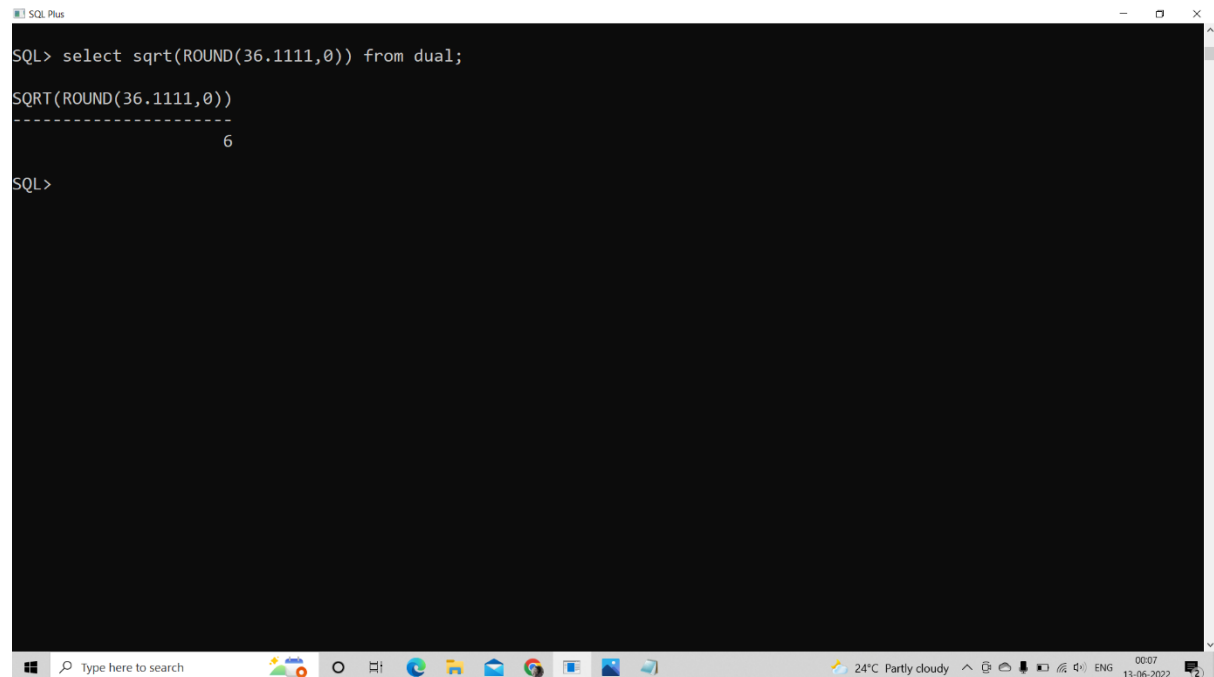
The screenshot shows a terminal window titled "SQL Plus" with a black background and white text. The prompt "SQL>" is followed by the query: `select deptno, count(*), avg(sal), sum(sal) from emp group by deptno;`. The output is a table with four columns: DEPTNO, COUNT(*), AVG(SAL), and SUM(SAL). The data is grouped by department number (deptno).

DEPTNO	COUNT(*)	AVG(SAL)	SUM(SAL)
20	5	2175	10875
30	6	1566.66667	9400
10	3	2916.66667	8750

The prompt "SQL>" is visible again below the results.

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27. Find a square root of the number 36.1111. The result should not contain any decimal spaces.



```
SQL> select sqrt(ROUND(36.1111,0)) from dual;

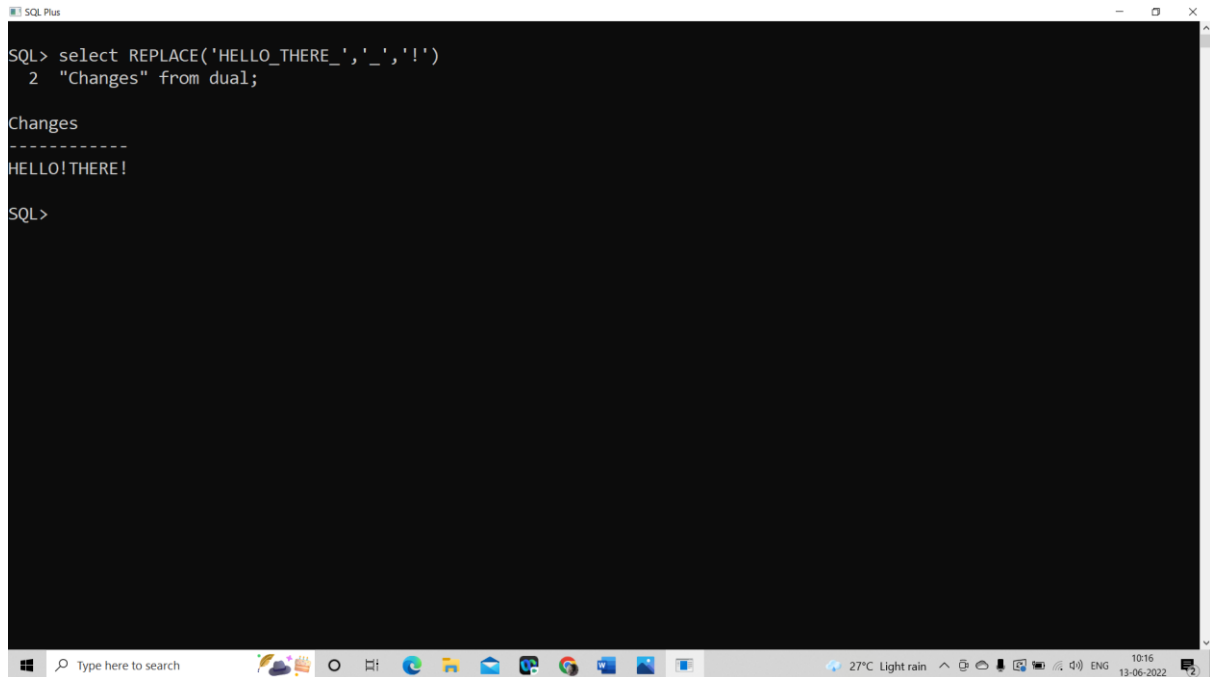
Sqrt(Round(36.1111,0))
-----
6

SQL>
```

The screenshot shows a Windows desktop with a taskbar at the bottom. The taskbar includes a search bar, several application icons (Edge, File Explorer, Mail, Chrome, etc.), and system tray information showing 24°C, partly cloudy weather, and the date 13-06-2022. The main window is an SQL Plus terminal with a black background and white text. It displays the execution of an SQL query to find the square root of 36.1111 rounded to 0 decimal places, which results in the integer 6.

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28. Given a string 'HELLO_THERE_'. Replace all '_' with '!' marks.



```
SQL> select REPLACE('HELLO_THERE_', '_', '!')
2  "Changes" from dual;

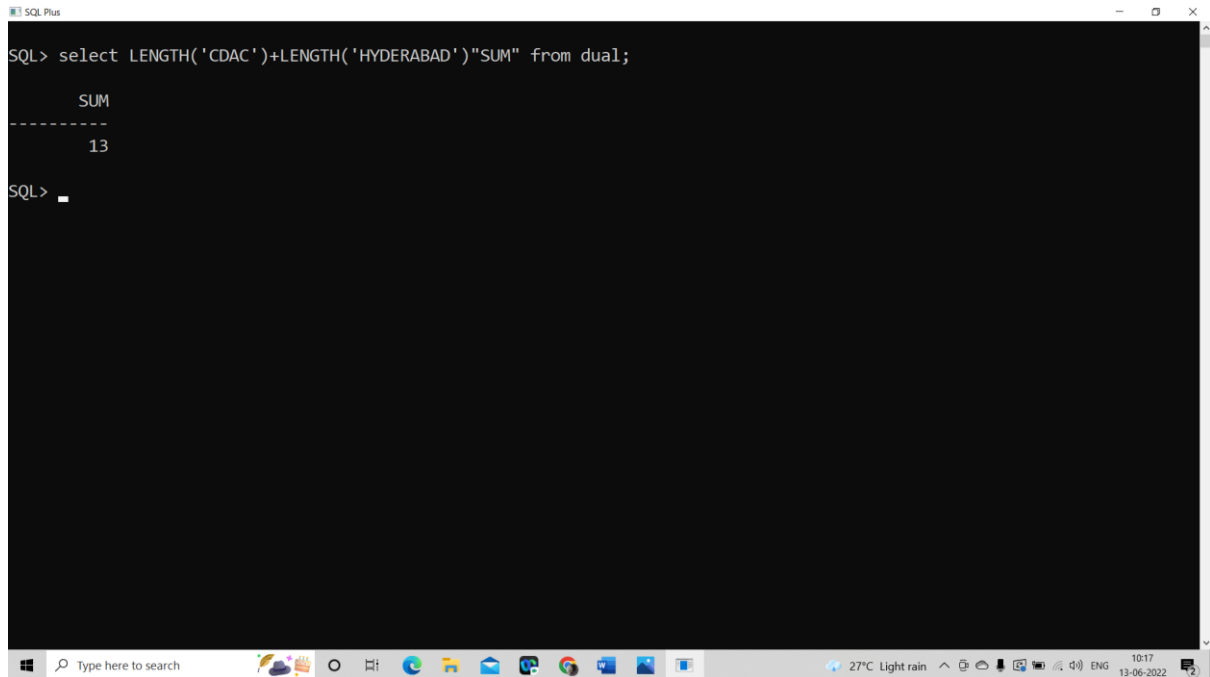
Changes
-----
HELLO!THERE!

SQL>
```

The screenshot shows a Windows desktop with a taskbar at the bottom. The taskbar includes a search bar, several application icons (like File Explorer, Edge, and Word), and system tray information showing 27°C, light rain, and the date 13-06-2022. The main window is a black terminal titled 'SQL Plus'. It displays the execution of an SQL query: 'select REPLACE('HELLO_THERE_', '_', '!')' followed by '2 "Changes" from dual;'. The output shows 'Changes' followed by a separator line and the result 'HELLO!THERE!'. The prompt 'SQL>' is visible at the bottom of the terminal.

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29. Find the sum of the length of the strings. The String are CDAC,
HYDERABAD.



The screenshot shows a SQL Plus window with a black background and white text. The command prompt shows the execution of an SQL query to calculate the sum of the lengths of the strings 'CDAC' and 'HYDERABAD'. The output is displayed in a table format with a header 'SUM' and a single row containing the value '13'. The window title is 'SQL Plus' and the status bar at the bottom shows system information like temperature, weather, and time.

```
SQL> select LENGTH('CDAC')+LENGTH('HYDERABAD') "SUM" from dual;
```

SUM
13

```
SQL>
```

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30. Find the job that was filled in the first half of the 1980 and the job that was filled during the same period.

```
SQL> select * from emp where hiredate > ('30-jun-80') and
2  to_char(hiredate,'YYYY') = 1981 order by job asc;
```

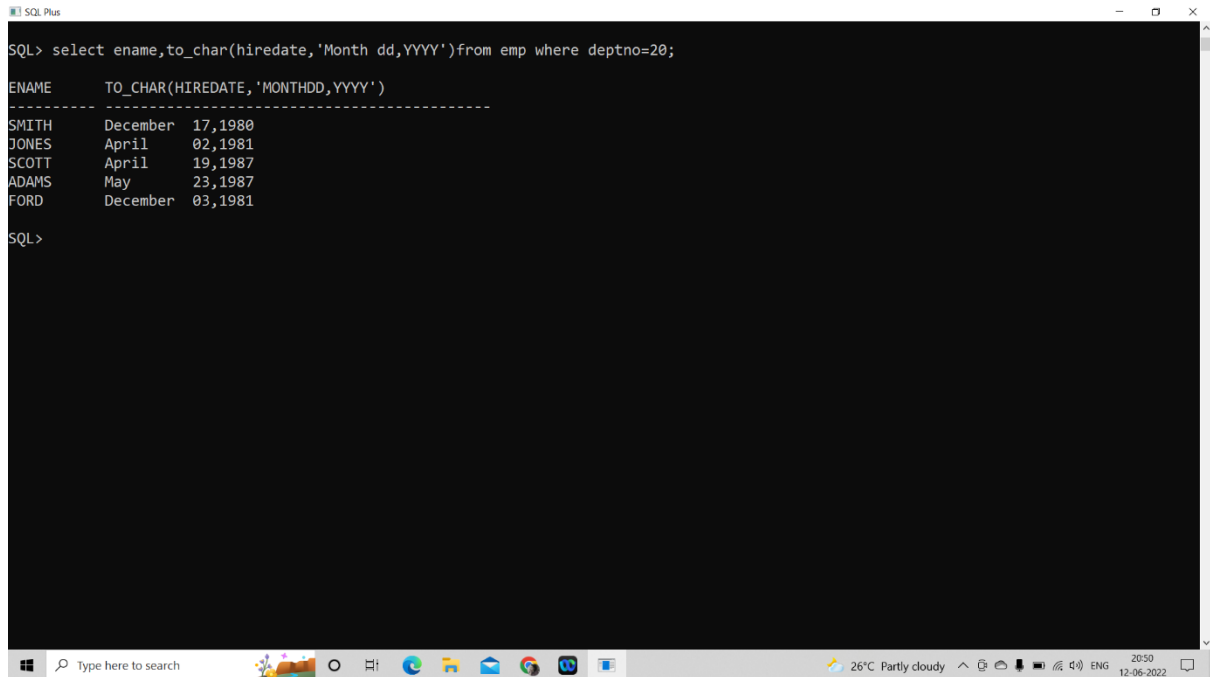
EMPNO	ENAME	JOB	MGR	HIREDATE	SAL	COMM	DEPTNO
7902	FORD	ANALYST	7566	03-DEC-81	3000		20
7900	JAMES	CLERK	7698	03-DEC-81	950		30
7566	JONES	MANAGER	7839	02-APR-81	2975		20
7698	BLAKE	MANAGER	7839	01-MAY-81	2850		30
7782	CLARK	MANAGER	7839	09-JUN-81	2450		10
7839	KING	PRESIDENT		17-NOV-81	5000		10
7499	ALLEN	SALESMAN	7698	20-FEB-81	1600	300	30
7844	TURNER	SALESMAN	7698	08-SEP-81	1500	0	30
7521	WARD	SALESMAN	7698	22-FEB-81	1250	500	30
7654	MARTIN	SALESMAN	7698	28-SEP-81	1250	1400	30

10 rows selected.

```
SQL>
```

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31. Select all employee names, hiredate whose department is 20. The format of the date should be December 20, 1983 for 20-Dec-83.



The screenshot shows a SQL Plus window with a black background and white text. The command prompt shows the execution of a SQL query to select employee names and their hire dates formatted as 'Month dd,YYYY' for department 20. The results are displayed in a table with two columns: ENAME and TO_CHAR(HIREDATE, 'MONTHDD,YYYY').

```
SQL> select ename,to_char(hiredate,'Month dd,YYYY')from emp where deptno=20;
```

ENAME	TO_CHAR(HIREDATE, 'MONTHDD,YYYY')
SMITH	December 17,1980
JONES	April 02,1981
SCOTT	April 19,1987
ADAMS	May 23,1987
FORD	December 03,1981

SQL>