

Database Technologies Assignment - 03
Rollno: 210950320034, Name: Deepankar jadhav

Q1) Show the details for any employee who earns a salary greater than the average for their department. Sort in department number order.

```
SELECT * FROM emp.employee where Salary > (select avg(Salary) from  
emp.employee  
where employee.Department_No = Department_No) order by  
Department_No;
```

The screenshot shows the MySQL Workbench interface. The query editor contains the following SQL query:

```
1 • SELECT * FROM emp.employee where Salary > (select avg(Salary) from emp.employee  
2   where employee.Department_No = Department_No) order by Department_No;
```

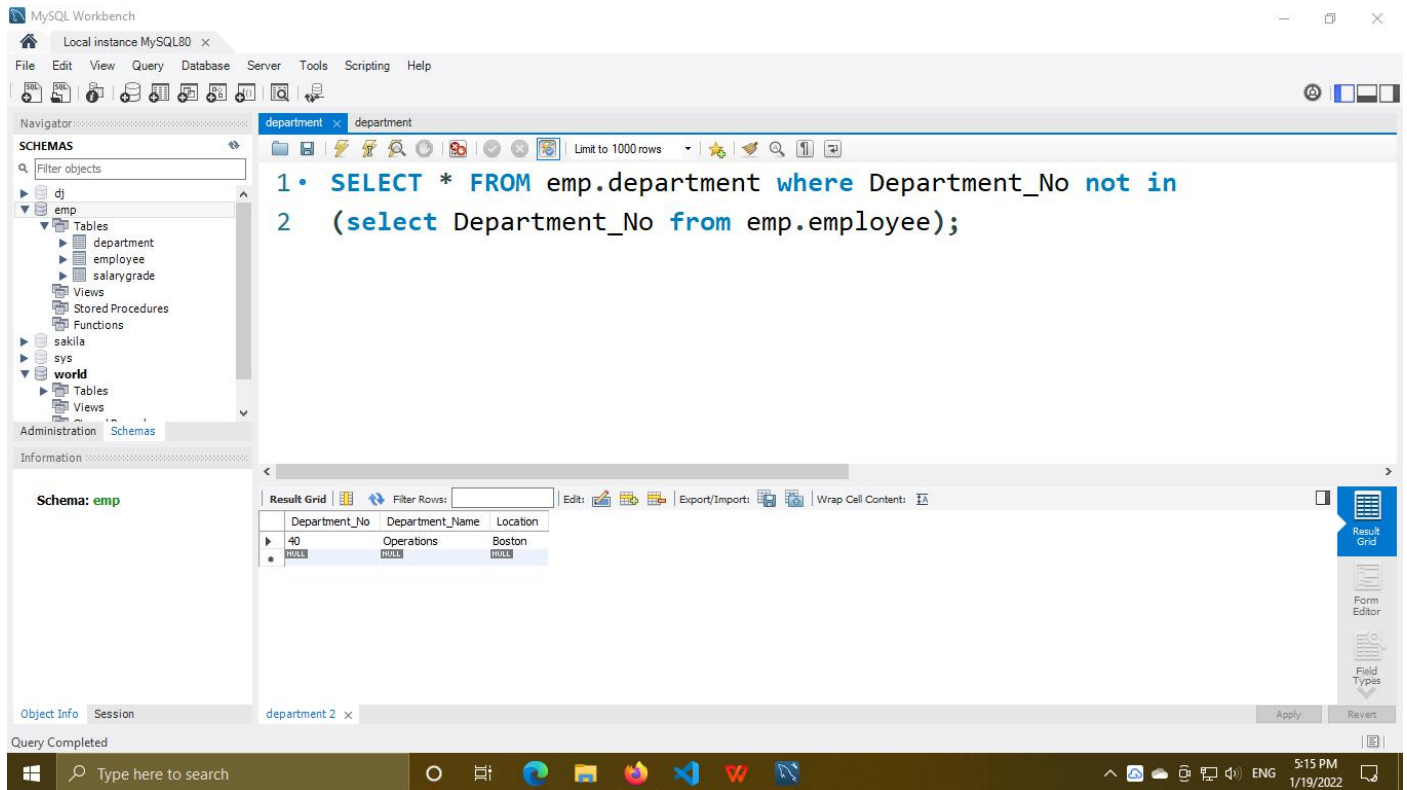
The query results are displayed in the Result Grid, showing a list of employees with their details. The columns are: Employee_No, Employee_Name, Job, MGR, HireDate, Salary, Commission, and Department_No. The results are sorted by Department_No.

Employee_No	Employee_Name	Job	MGR	HireDate	Salary	Commission	Department_No
7782	CLARK	MANAGER	7839	1982-06-09	2450.00	NO	10
7839	KING	PRESIDENT	NO	1981-11-17	5000.00	NO	10
2788	SCOTT	ANALYST	7566	1987-04-19	3000.00	NO	20
7566	JONES	MANAGER	7839	1981-02-04	2975.00	NO	20
7902	FORD	ANALYST	7566	1981-12-03	3000.00	NO	20
7698	BLAKE	SALESPERSON	7839	1981-01-05	2850.00	NO	30

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Q2) List all the departments where there are no employees.(using a sub query)

```
SELECT * FROM emp.department where Department_No not in  
(select Department_No from emp.employee);
```



The screenshot shows the MySQL Workbench interface. The left sidebar displays the 'SCHEMAS' tree with 'emp' selected. The main editor window contains the following SQL query:

```
1 • SELECT * FROM emp.department where Department_No not in  
2 (select Department_No from emp.employee);
```

Below the query editor, the 'Result Grid' is visible, showing the results of the query. The grid has three columns: 'Department_No', 'Department_Name', and 'Location'. The results are as follows:

Department_No	Department_Name	Location
40	Operations	Boston
41	Marketing	London
42	Finance	New York
43	Human Resources	London
44	Production	London
45	Shipping	London
46	Engineering	London
47	Research and Development	London
48	Quality Assurance	London
49	Customer Support	London

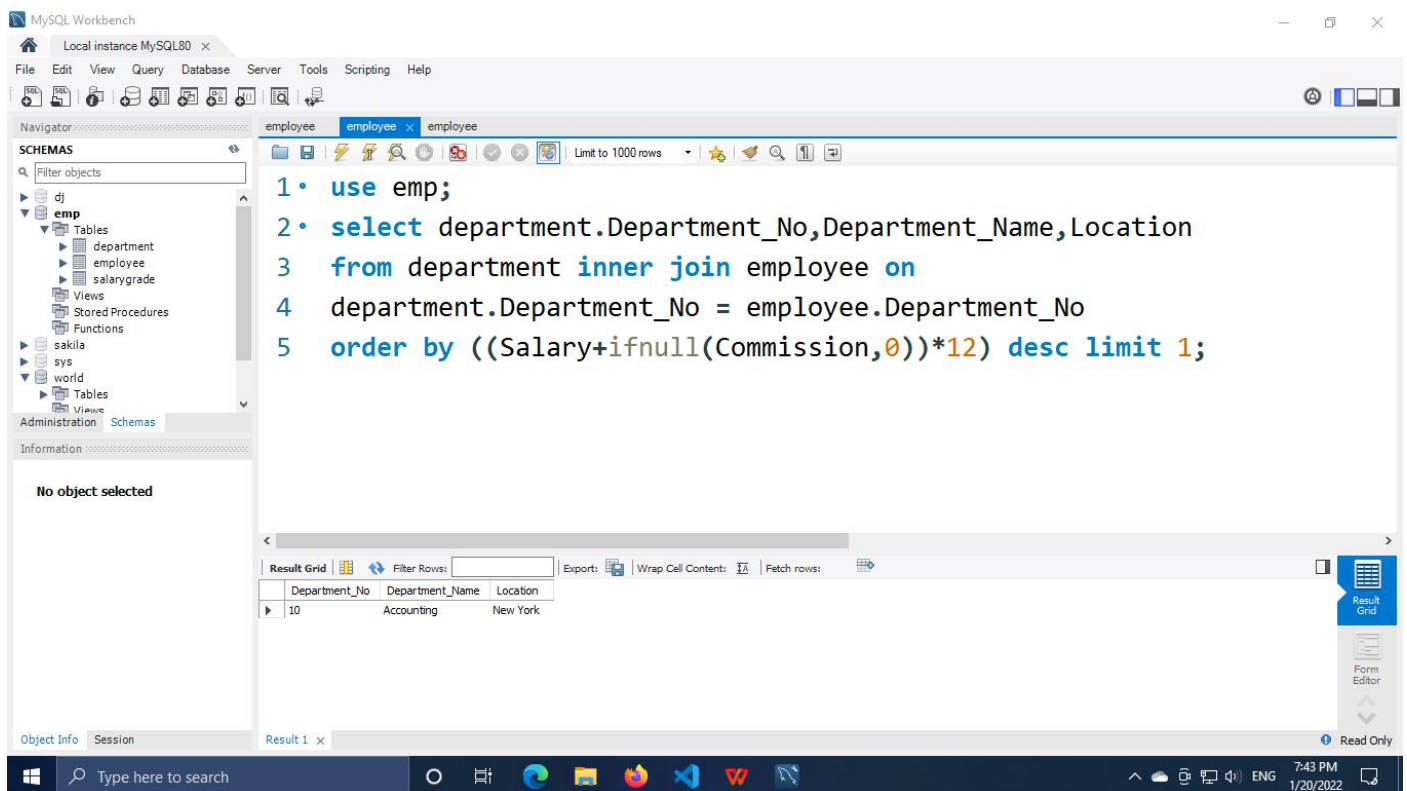
The status bar at the bottom indicates 'Query Completed'.

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Q3) Display the information for the department with the highest annual remuneration.

use emp;

```
select department.Department_No,Department_Name,Location  
from department inner join employee on  
department.Department_No = employee.Department_No  
order by ((Salary+ifnull(Commission,0))*12) desc limit 1;
```



The screenshot shows the MySQL Workbench interface. The SQL Editor contains the following query:

```
1 • use emp;  
2 • select department.Department_No,Department_Name,Location  
3   from department inner join employee on  
4   department.Department_No = employee.Department_No  
5   order by ((Salary+ifnull(Commission,0))*12) desc limit 1;
```

The Results window at the bottom displays the output of the query in a table format:

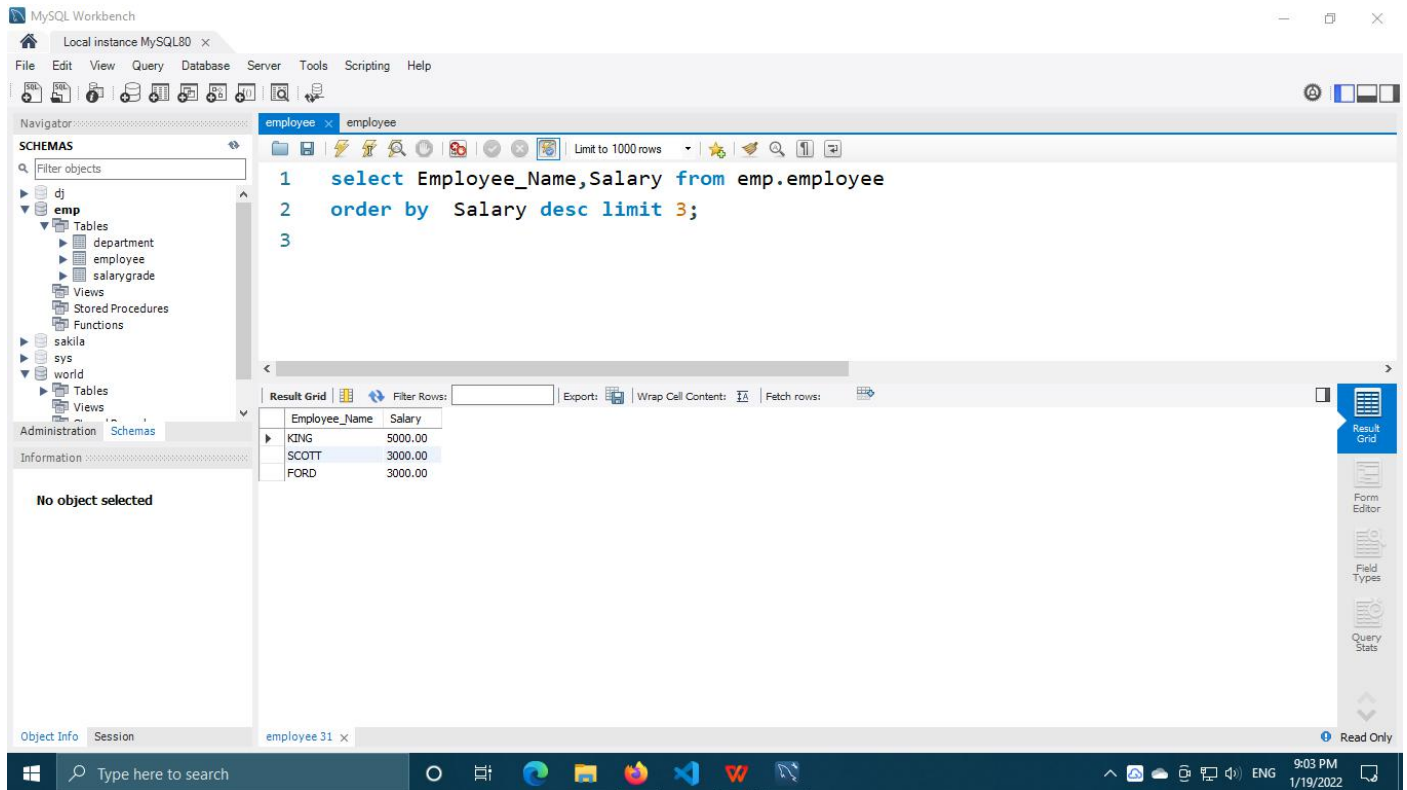
Department_No	Department_Name	Location
10	Accounting	New York

The interface also shows the Navigator pane on the left with the 'emp' schema selected, and the bottom status bar indicating the current session and result set.

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Q4) Who are the top three earners in the company? Display their name and salary.

```
select Employee_Name,Salary from emp.employee  
order by Salary desc limit 3;
```



The screenshot shows the MySQL Workbench interface. The left sidebar displays the 'SCHEMAS' tree with the 'emp' database selected. The main editor window contains the following SQL query:

```
1 select Employee_Name,Salary from emp.employee  
2 order by Salary desc limit 3;  
3
```

Below the query editor, the 'Result Grid' is displayed, showing the results of the query:

Employee_Name	Salary
KING	5000.00
SCOTT	3000.00
FORD	3000.00

The bottom status bar indicates the session is 'employee 31' and the user is in 'Read Only' mode. The Windows taskbar at the bottom shows the time as 9:03 PM on 1/19/2022.

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Q5) In which year did most people join the company? Display the year and number of employees.

```
SELECT year(HireDate),count(Employee_Name)
FROM emp.employee group by year(HireDate)
HAVING count(Employee_Name)>4;
```

The screenshot shows the MySQL Workbench interface. The left sidebar displays the 'SCHEMAS' tree with 'emp' selected. The central editor contains the following SQL query:

```
1 • SELECT year(HireDate),count(Employee_Name)
2 FROM emp.employee group by year(HireDate)
3 HAVING count(Employee_Name)>4;
```

Below the query editor, the 'Result Grid' is visible, showing the results of the query:

year(HireDate)	count(Employee_Name)
1981	10

The bottom status bar indicates 'Read Only' and the system clock shows 10:16 PM on 1/19/2022.

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Q6) Write a query to display an '*' against the row of the most recently hired employee. Display ENAME, HIREDATE and the column showing '*'.

```
SELECT Employee_Name, HireDate, "*" FROM emp.employee order by HireDate limit 1;
```

The screenshot shows the MySQL Workbench interface. The query editor contains the following SQL query:

```
1 • SELECT Employee_Name, HireDate, "*" FROM emp.employee order by HireDate limit 1;
```

The result grid below the query shows the following data:

Employee_Name	HireDate	*
SMITH	1980-12-17	*

The interface also shows the Navigator pane on the left with the 'emp' schema selected, and the Information pane at the bottom left showing 'No object selected'.

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Q7) List all employee names and numbers along with their manager's name and number.

```
SELECT e.Employee_No,e.Employee_Name,m.Employee_No 'Manager_No',  
m.Employee_Name 'Manager_Name' FROM employee e  
join employee m on (e.MGR = m.Employee_No);
```

The screenshot shows the MySQL Workbench interface. The SQL editor contains the following query:

```
1 • SELECT e.Employee_No,e.Employee_Name,m.Employee_No 'Manager_No',  
2 m.Employee_Name 'Manager_Name' FROM employee e  
3 join employee m on (e.MGR = m.Employee_No);
```

The Results Grid displays the output of the query, showing columns: Employee_No, Employee_Name, Manager_No, and Manager_Name. The data is as follows:

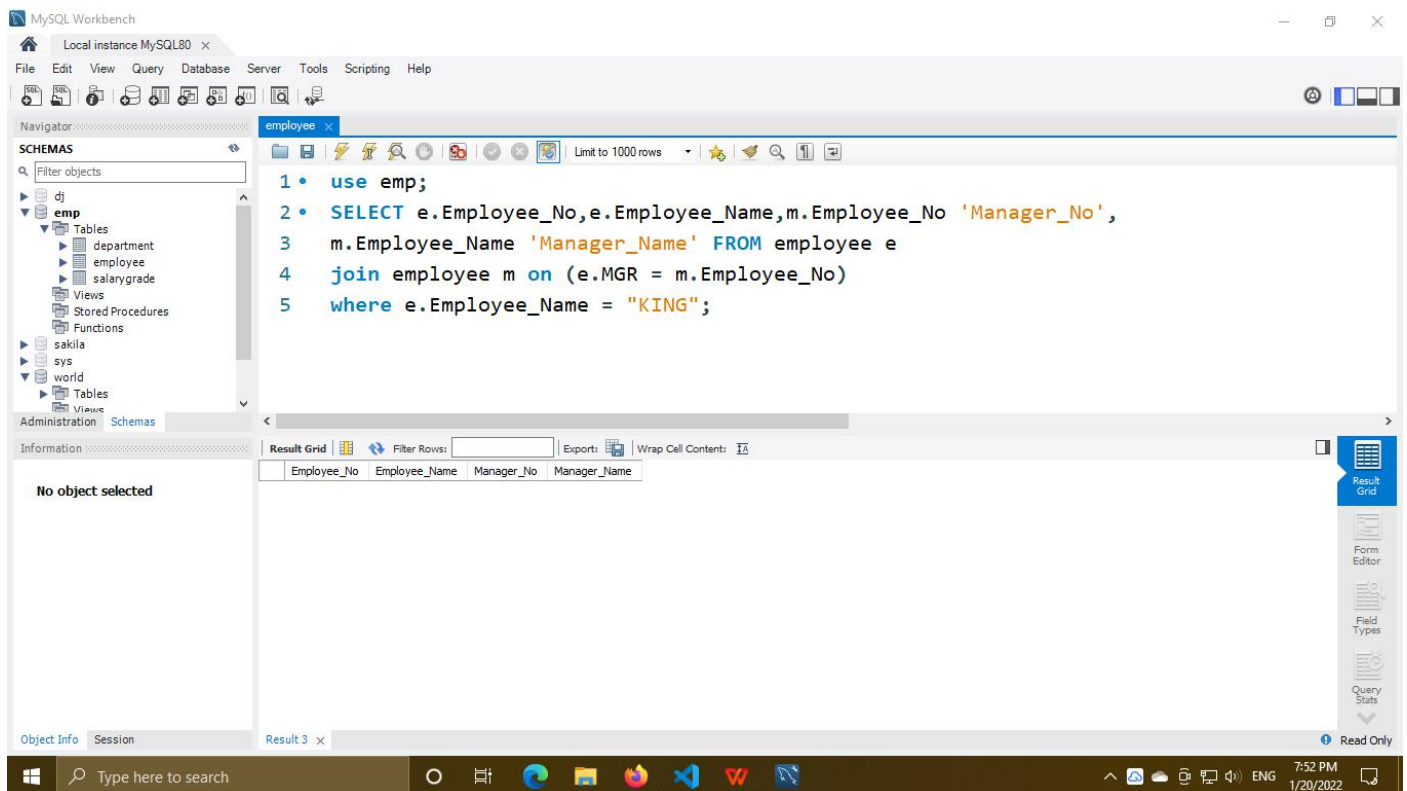
Employee_No	Employee_Name	Manager_No	Manager_Name
2788	SCOTT	7566	JONES
7369	SMITH	7902	FORD
7499	ALLEN	7698	BLAKE
7521	WARD	7698	BLAKE
7566	JONES	7839	KING
7644	TURNER	7698	BLAKE
7654	MARTINE	7698	BLAKE
7698	BLAKE	7839	KING
7782	CLARK	7839	KING
7900	JAMES	7698	BLAKE
7902	FORD	7566	JONES
7934	MILLER	7782	CLARK

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Q8) Modify solution to question 8 to display KING who has no manager.

use emp;

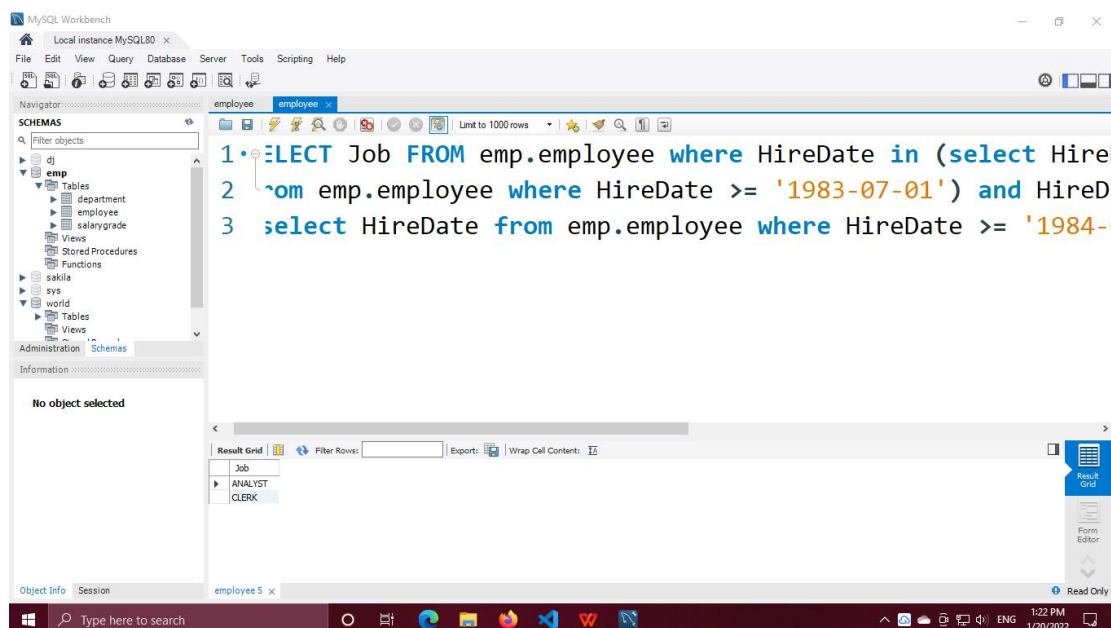
```
SELECT e.Employee_No,e.Employee_Name,m.Employee_No 'Manager_No',  
m.Employee_Name 'Manager_Name' FROM employee e  
join employee m on (e.MGR = m.Employee_No)  
where e.Employee_Name = "KING";
```



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Q9) Find the job that was filled in the first half of 1983 and the same job that was filled during the same period in 1984.

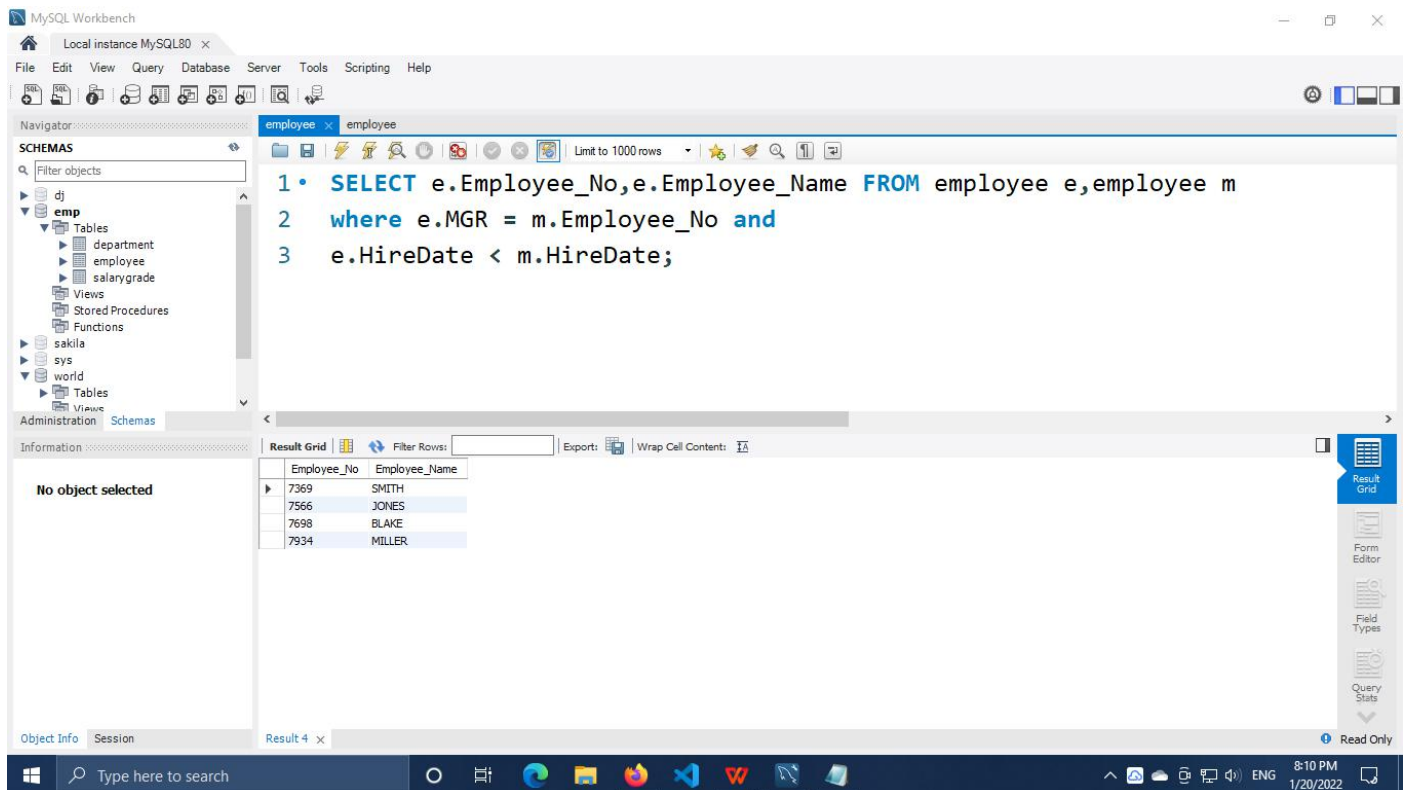
```
SELECT Job FROM emp.employee where HireDate in (select HireDate
from emp.employee where HireDate >= '1983-07-01') and HireDate in
(select HireDate from emp.employee where HireDate >= '1984-07-01');
```



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Q10) Find all employees who joined the company before their manager.

```
SELECT e.Employee_No,e.Employee_Name FROM employee e,employee m
where e.MGR = m.Employee_No and
e.HireDate < m.HireDate;
```



The screenshot shows the MySQL Workbench interface. The query editor contains the following SQL query:

```
1 • SELECT e.Employee_No,e.Employee_Name FROM employee e,employee m
2   where e.MGR = m.Employee_No and
3   e.HireDate < m.HireDate;
```

The Results tab is active, displaying the following data in a table:

Employee_No	Employee_Name
7369	SMITH
7566	JONES
7698	BLAKE
7934	MILLER

The interface also shows the Navigator pane on the left with the 'emp' schema selected, and the Information pane at the bottom left showing 'No object selected'.

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Q11) Produce a list showing employees names and their salary grades.

select e.Employee_Name,s.Grade from employee e,salarygrade s
where e.Salary between s.Low_Sal and s.High_Sal order by s.Grade;

The screenshot shows the MySQL Workbench interface. The left sidebar displays the 'SCHEMAS' tree with the 'emp' database selected. The main editor window contains the following SQL query:

```
1 • select e.Employee_Name,s.Grade from employee e,salarygrade s
2 where e.Salary between s.Low_Sal and s.High_Sal order by s.Grade;
```

Below the query editor, the 'Result Grid' is displayed, showing the results of the query. The results are as follows:

Employee_Name	Grade
SMITH	1
ALLEN	1
ADAMS	1
JAMES	1
WARD	2
MARTINE	2
MILLER	2
TURNER	3
SCOTT	4
JONES	4
BLAKE	4
CLARK	4
FORD	4
KING	5

The bottom status bar indicates the session is 'Read Only' and the system time is 8:29 PM on 1/20/2022.

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Q12) Write today's date in words (e.g.: Fourteenth of March, Nineteen Hundred Forty Seven) using inbuilt functions only.

SELECT date_format(curdate(), '%D %M %Y') as 'Current Date';

The screenshot shows the MySQL Workbench interface. The query editor contains the following SQL statement:

```
1 SELECT date_format(curdate(), '%D %M %Y') as 'Current Date';
```

The query has been executed, and the results are displayed in the 'Result Grid' tab. The results are as follows:

Current Date
20th January 2022

The interface also shows the 'Navigator' pane on the left with a tree view of databases and tables. The 'Information' pane at the bottom left shows 'No object selected'. The status bar at the bottom indicates 'Query Completed'.

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Q13) Select all the employee names, hiredate whose department is 20. The format of the date should be December 20,1993 for 20-Dec-93.

```
SELECT Employee_Name,date_format(HireDate,'%M %D %Y') 'HireDate'  
FROM emp.employee where Department_No = 20;
```

The screenshot shows the MySQL Workbench interface. The query editor contains the following SQL query:

```
1 • ECT Employee_Name,date_format(HireDate,'%M %D %Y') 'HireDate'  
2 M emp.employee where Department_No = 20;
```

The query has been executed, and the results are displayed in the Result Grid. The results show the following data:

Employee_Name	HireDate
SCOTT	April 19th 1987
SMITH	December 17th 1980
JONES	February 4th 1981
TURNER	September 8th 1981
ADAMS	May 23rd 1987
FORD	December 3rd 1981

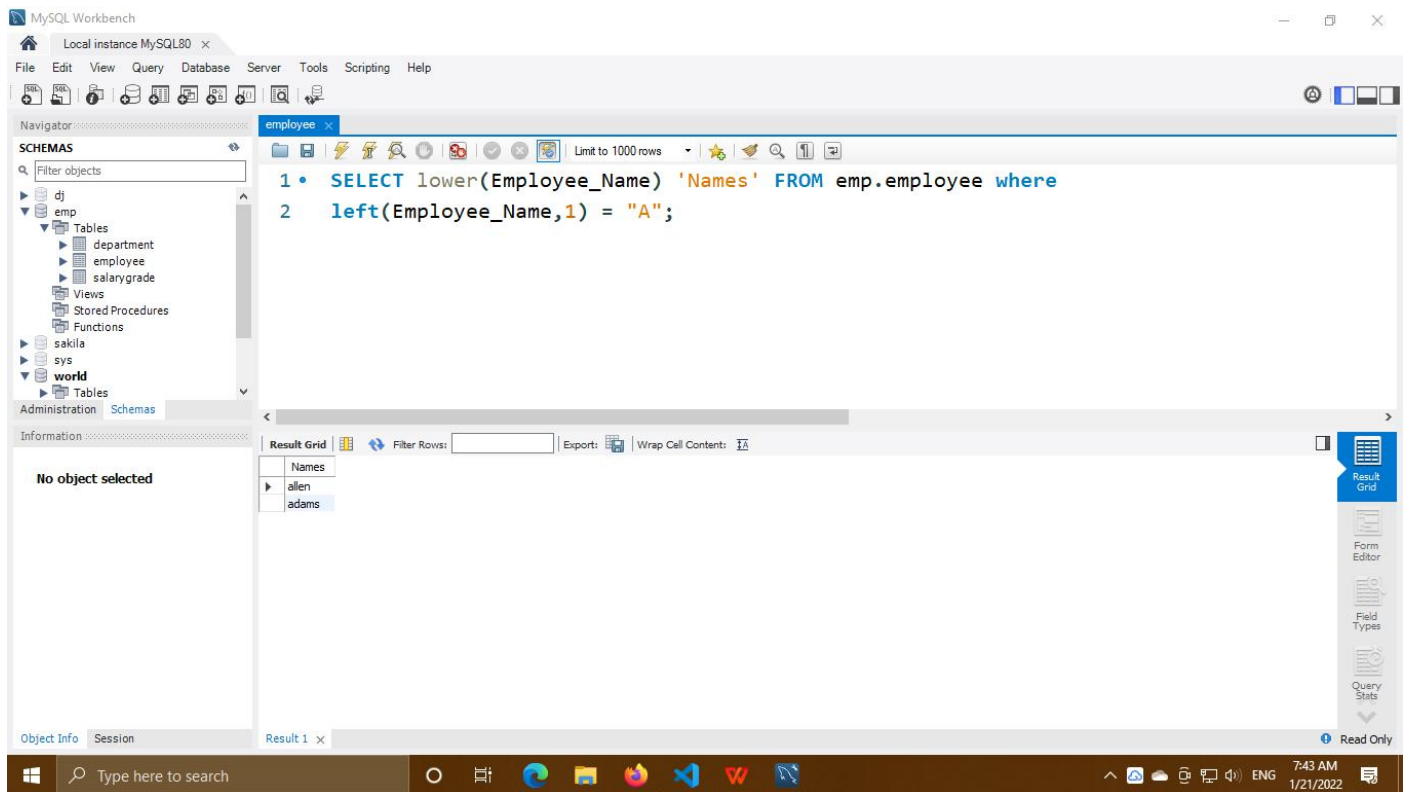
The interface also shows the Navigator pane on the left with the 'emp' schema selected, and the Information pane at the bottom showing 'No object selected'.

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Q14) Change (display) all the employee names and let their names to lower case whose names start with A.

SELECT lower(Employee_Name) 'Names' FROM emp.employee where
left(Employee_Name,1) = "A";



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Q15) Change (display) all the strings containing Clerk to Clark from employees table. Dont use update.

```
select *,case when job = "CLERK" then "CLARK"  
else Job end "NO_UPDATE" from emp.employee;
```

The screenshot shows the MySQL Workbench interface. The query editor contains the following SQL query:

```
1 • select *,case when job = "CLERK" then "CLARK"  
2   else Job end "NO_UPDATE" from emp.employee;
```

The query has been executed, and the results are displayed in the Result Grid. The table has 9 columns: Employee_No, Employee_Name, Job, MGR, HireDate, Salary, Commission, Department_No, and NO_UPDATE. The results show 15 rows of data, including employees like SCOTT, SMITH, ALLEN, WARK, JONES, TURNER, MARTINE, BLAKE, CLARK, KING, ADAMS, JAMES, FORD, and MILLER. The 'NO_UPDATE' column shows 'CLARK' for employees whose job was 'CLERK' and the original job name for others.

Employee_No	Employee_Name	Job	MGR	HireDate	Salary	Commission	Department_No	NO_UPDATE
2788	SCOTT	ANALYST	7566	1987-04-19	3000.00	NULL	20	ANALYST
7369	SMITH	CLARK	7902	1980-12-17	800.00	NULL	20	CLARK
7499	ALLEN	SALESPERSON	7698	1981-02-20	1000.00	300.00	30	SALESPERSON
7521	WARK	SALESPERSON	7698	1981-02-22	1250.00	500.00	30	SALESPERSON
7566	JONES	MANAGER	7839	1981-02-04	2975.00	NULL	20	MANAGER
7644	TURNER	SALESMAN	7698	1981-09-08	1500.00	NULL	20	SALESMAN
7654	MARTINE	SALESPERSON	7698	1981-09-28	1250.00	1400.00	30	SALESPERSON
7698	BLAKE	SALESPERSON	7839	1981-01-05	2850.00	NULL	30	SALESPERSON
7782	CLARK	MANAGER	7839	1982-06-09	2450.00	NULL	10	MANAGER
7839	KING	PRESIDENT	NULL	1981-11-17	5000.00	NULL	10	PRESIDENT
7879	ADAMS	CLARK	7788	1987-05-23	1100.00	NULL	20	CLARK
7900	JAMES	SALESPERSON	7698	1981-12-03	950.00	NULL	30	SALESPERSON
7902	FORD	ANALYST	7566	1981-12-03	3000.00	NULL	20	ANALYST
7934	MILLER	CLARK	7782	1981-01-23	1300.00	NULL	10	CLARK