

Theory Assignment

Module: Java Rdbms & Amp; Database program With Jdbc

Name: Prajapati Raj ManojKumar

Subject: Java Rdbms & amp.

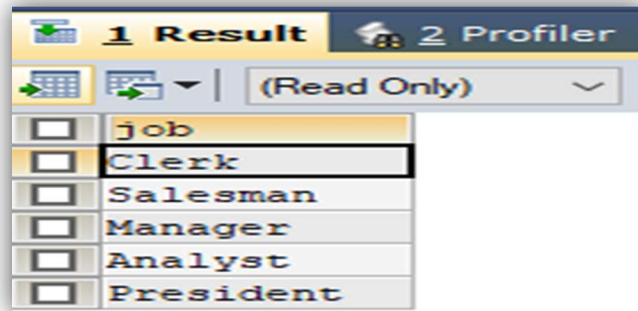
Theory Assignment

Module: Java Rdbms & Database program With Jdbc Queries

1. Select unique job from EMP table.

Ans. SELECT DISTINCT job FROM emp ;

Screenshot:



2. List the details of the emps in asc order of the Deptnos and desc of Jobs?

Ans. SELECT * FROM emp ORDER BY deptno ASC, job DESC ;

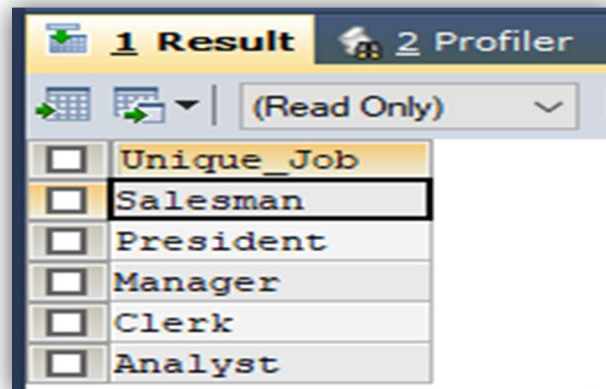
empname	job	mgr	hiredate	sal	comm	deptno
7782 Clark	Manager	7839	1981-06-09	2450.00	(NULL)	10
7934 Miller	Clerk	7782	1982-01-23	1300.00	(NULL)	10
7566 Jones	Manager	7839	1981-04-02	2975.00	(NULL)	20
7876 Adamas	Clerk	7788	1987-07-13	1100.00	(NULL)	20
7369 Smith	Clerk	7902	1980-12-17	800.00	(NULL)	20
7902 Ford	Analyst	7566	1981-03-12	3000.00	(NULL)	20
7788 Scott	Analyst	7566	1987-06-11	3000.00	(NULL)	20
7654 Martin	Salesman	7698	1981-09-28	1250.00	1400.00	30
7521 Ward	Salesman	7698	1981-02-22	1250.00	500.00	30
7844 Turner	Salesman	7698	1981-08-09	1500.00	0.00	30
7499 Allen	Salesman	7698	1981-02-20	1600.00	300.00	30
7698 Blake	Manager	7839	1981-05-01	2850.00	(NULL)	30
7900 James	Clerk	7698	1981-03-12	950.00	(NULL)	30

Theory Assignment

Module: Java Rdbms & Amp; Database program With Jdbc

3. Display all the unique job groups in the descending order?

Ans. SELECT DISTINCT job FROM emp ORDER BY job DESC;



4. List the emps who joined before 1981.

Ans. SELECT * FROM emp WHERE hiredate < '1981-01-01';

The screenshot shows a database query result window with five tabs: '1 Result', '2 Profiler', '3 Messages', '4 Table Data', and '5 Info'. The '1 Result' tab is active, displaying a table of employee details. The results are as follows:

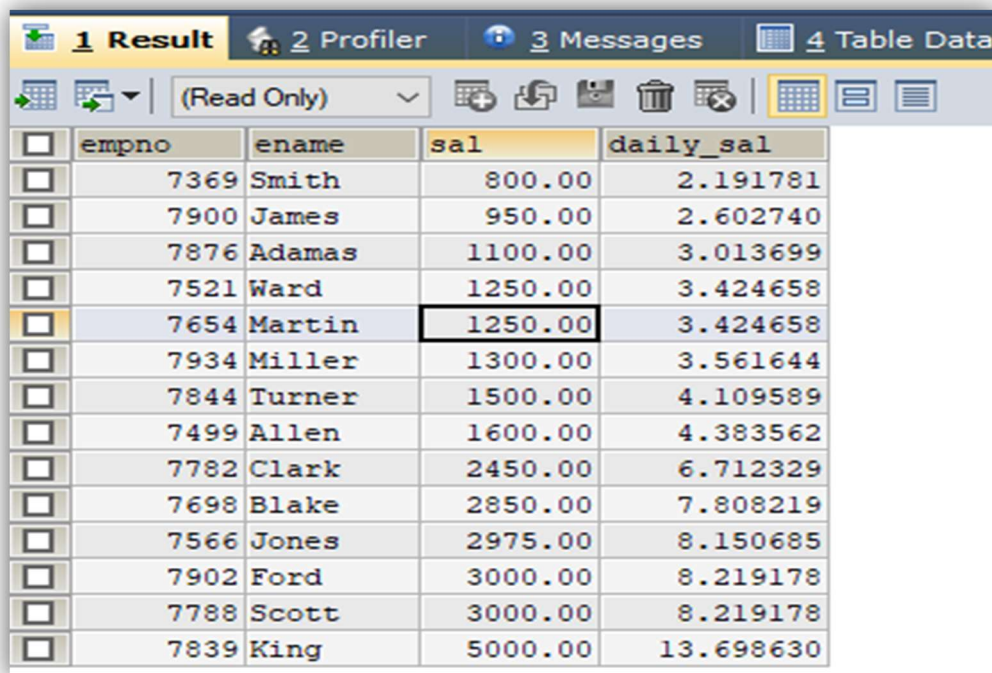
empno	ename	job	mgr	hiredate	sal	comm	deptno
7369	Smith	Clerk	7902	1980-12-17	800.00	(NULL)	20

5. List the Empno, Ename, Sal, Daily sal of all emps in the asc order of Annsal.

Ans. SELECT empno, ename, sal, (sal / 365) AS daily_sal
FROM
Emp ORDER BY (sal * 12) ASC;

Theory Assignment

Module: Java Rdbms & Amp; Database program With Jdbc



The screenshot shows the SQL Developer interface with the '1 Result' tab selected. The table contains 15 rows of employee data. The columns are empno, ename, sal, and daily_sal. The row for empno 7654 (Martin) is highlighted.

empno	ename	sal	daily_sal
7369	Smith	800.00	2.191781
7900	James	950.00	2.602740
7876	Adamas	1100.00	3.013699
7521	Ward	1250.00	3.424658
7654	Martin	1250.00	3.424658
7934	Miller	1300.00	3.561644
7844	Turner	1500.00	4.109589
7499	Allen	1600.00	4.383562
7782	Clark	2450.00	6.712329
7698	Blake	2850.00	7.808219
7566	Jones	2975.00	8.150685
7902	Ford	3000.00	8.219178
7788	Scott	3000.00	8.219178
7839	King	5000.00	13.698630

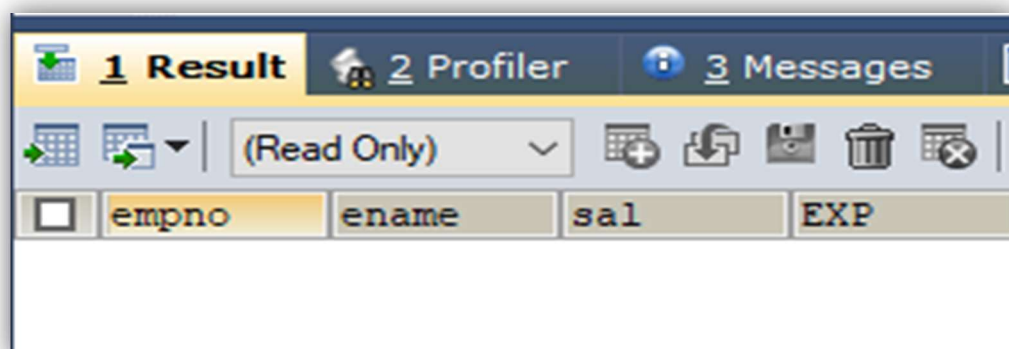
6. List the Empno, Ename, Sal, Exp of all emps working for Mgr 7369.

Ans. SELECT empno, ename, sal,

YEAR (CURDATE ()) - YEAR (hiredate) AS EXP

FROM

Emp WHERE mgr = 7369;



The screenshot shows the SQL Developer interface with the '1 Result' tab selected. The table contains 4 columns: empno, ename, sal, and EXP. The table is currently empty.

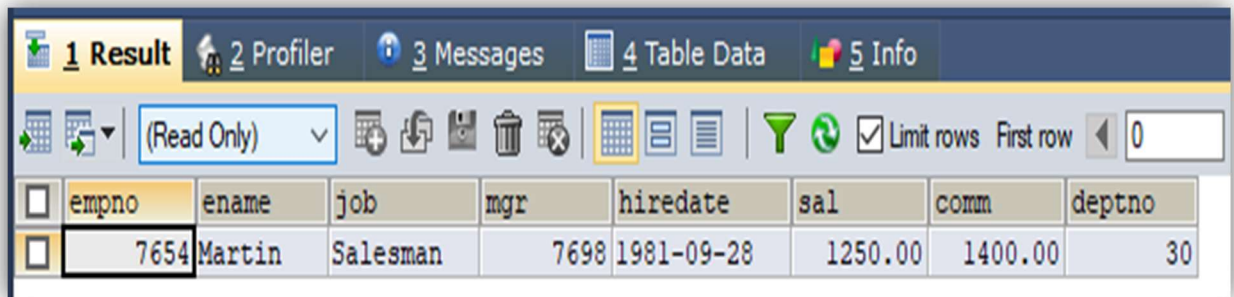
empno	ename	sal	EXP
-------	-------	-----	-----

Theory Assignment

Module: Java Rdbms & Database program With Jdbc

7. Display all the details of the emps who's Comm. Is more than their Sal?

Ans. `SELECT * FROM emp WHERE comm > sal;`

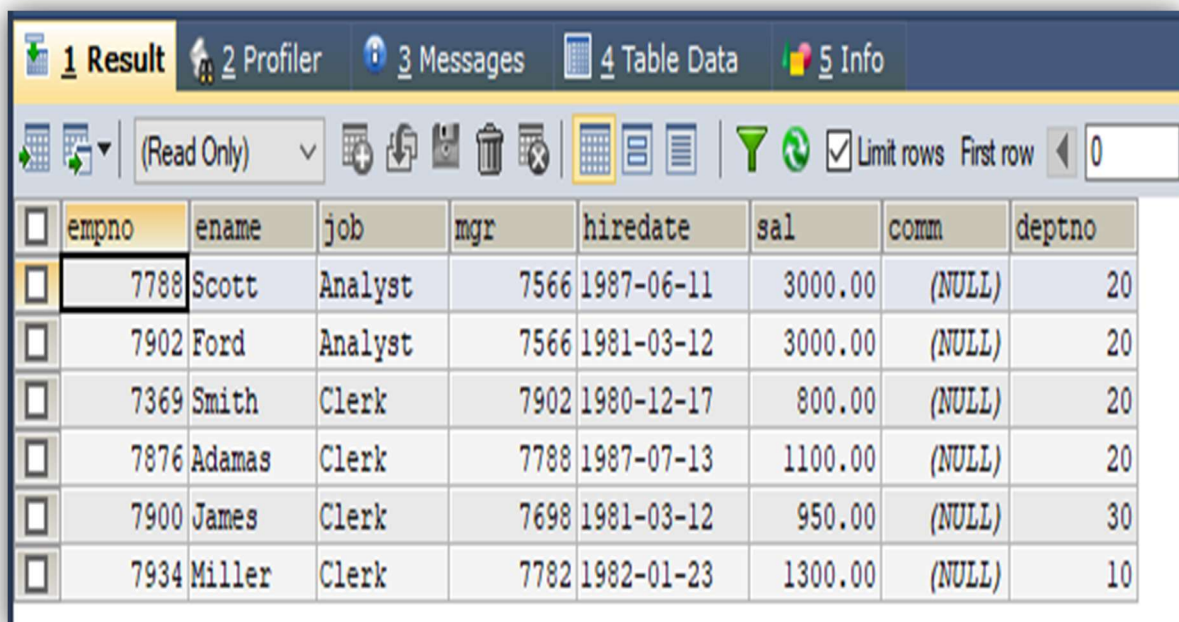


The screenshot shows a database query result with the following columns: empno, ename, job, mgr, hiredate, sal, comm, and deptno. The result set contains one row for employee 7654, Martin, a Salesman, with a salary of 1250.00 and a commission of 1400.00.

empno	ename	job	mgr	hiredate	sal	comm	deptno
7654	Martin	Salesman	7698	1981-09-28	1250.00	1400.00	30

8. List the emps who are either 'CLERK' or 'ANALYST' in the Desc order.

Ans. `SELECT * FROM emp WHERE job IN ("Clerk","Analyst")
ORDER BY job;`



The screenshot shows a database query result with the following columns: empno, ename, job, mgr, hiredate, sal, comm, and deptno. The result set contains six rows, ordered by job (Analyst first, then Clerk). The commission values are NULL for all employees.

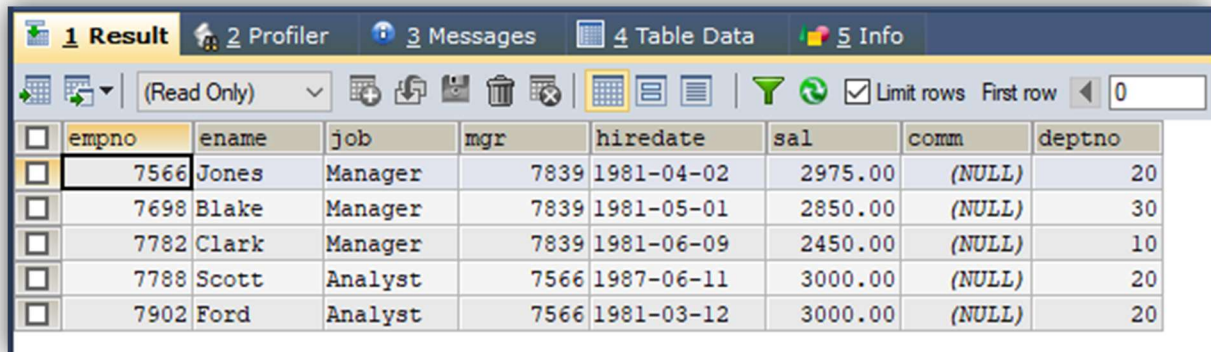
empno	ename	job	mgr	hiredate	sal	comm	deptno
7788	Scott	Analyst	7566	1987-06-11	3000.00	(NULL)	20
7902	Ford	Analyst	7566	1981-03-12	3000.00	(NULL)	20
7369	Smith	Clerk	7902	1980-12-17	800.00	(NULL)	20
7876	Adamas	Clerk	7788	1987-07-13	1100.00	(NULL)	20
7900	James	Clerk	7698	1981-03-12	950.00	(NULL)	30
7934	Miller	Clerk	7782	1982-01-23	1300.00	(NULL)	10

Theory Assignment

Module: Java Rdbms & Amp; Database program With Jdbc

9. List the emps Who Annual sal ranging from 22000 and 45000.

Ans. SELECT * FROM emp WHERE (sal * 12) BETWEEN
22000 AND 45000;

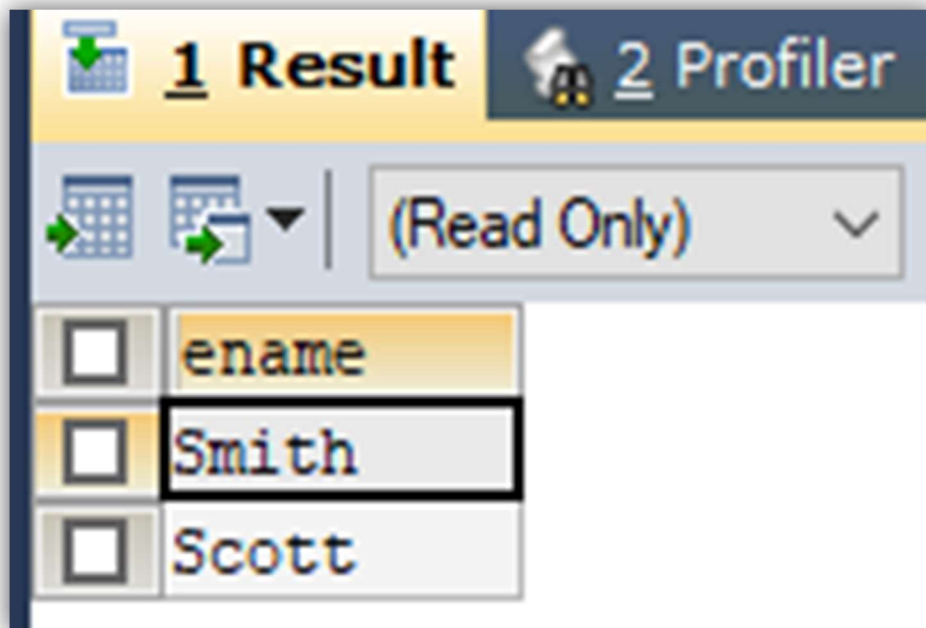


The screenshot shows a database query result with the following columns: empno, ename, job, mgr, hiredate, sal, comm, and deptno. The data is as follows:

empno	ename	job	mgr	hiredate	sal	comm	deptno
7566	Jones	Manager	7839	1981-04-02	2975.00	(NULL)	20
7698	Blake	Manager	7839	1981-05-01	2850.00	(NULL)	30
7782	Clark	Manager	7839	1981-06-09	2450.00	(NULL)	10
7788	Scott	Analyst	7566	1987-06-11	3000.00	(NULL)	20
7902	Ford	Analyst	7566	1981-03-12	3000.00	(NULL)	20

10. List the Enames those are starting with 'S' and with five characters.

Ans. SELECT ename FROM emp WHERE ename LIKE 'S_____';



The screenshot shows a database query result with the following columns: ename. The data is as follows:

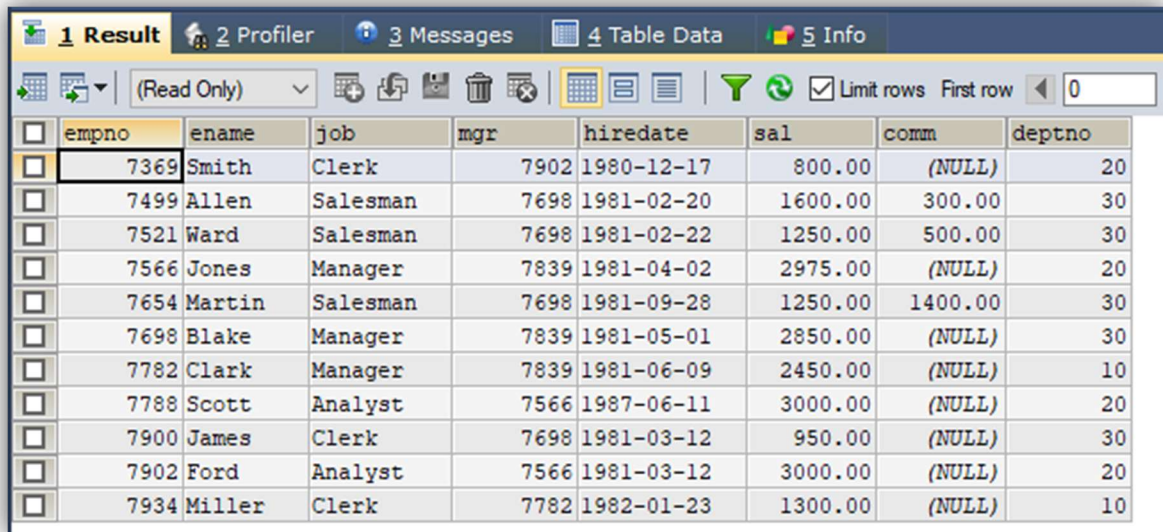
ename
Smith
Scott

Theory Assignment

Module: Java Rdbms & Amp; Database program With Jdbc

11. List the emps whose Empno not starting with digit 78.

Ans. SELECT * FROM emp WHERE empno NOT LIKE "78%";



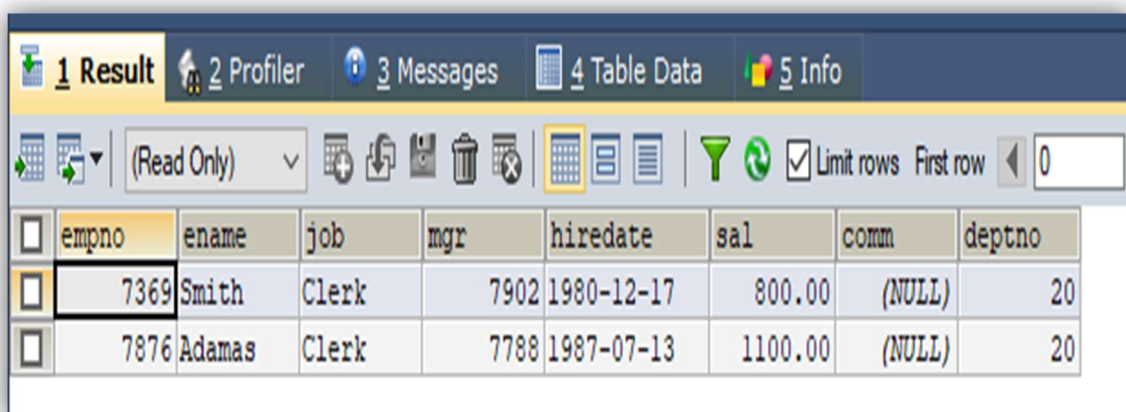
empno	ename	job	mgr	hiredate	sal	comm	deptno
7369	Smith	Clerk	7902	1980-12-17	800.00	(NULL)	20
7499	Allen	Salesman	7698	1981-02-20	1600.00	300.00	30
7521	Ward	Salesman	7698	1981-02-22	1250.00	500.00	30
7566	Jones	Manager	7839	1981-04-02	2975.00	(NULL)	20
7654	Martin	Salesman	7698	1981-09-28	1250.00	1400.00	30
7698	Blake	Manager	7839	1981-05-01	2850.00	(NULL)	30
7782	Clark	Manager	7839	1981-06-09	2450.00	(NULL)	10
7788	Scott	Analyst	7566	1987-06-11	3000.00	(NULL)	20
7900	James	Clerk	7698	1981-03-12	950.00	(NULL)	30
7902	Ford	Analyst	7566	1981-03-12	3000.00	(NULL)	20
7934	Miller	Clerk	7782	1982-01-23	1300.00	(NULL)	10

12. List all the Clerks of Deptno 20.

Ans. SELECT * FROM emp WHERE job = 'CLERK'

AND

deptno = 20;



empno	ename	job	mgr	hiredate	sal	comm	deptno
7369	Smith	Clerk	7902	1980-12-17	800.00	(NULL)	20
7876	Adamas	Clerk	7788	1987-07-13	1100.00	(NULL)	20

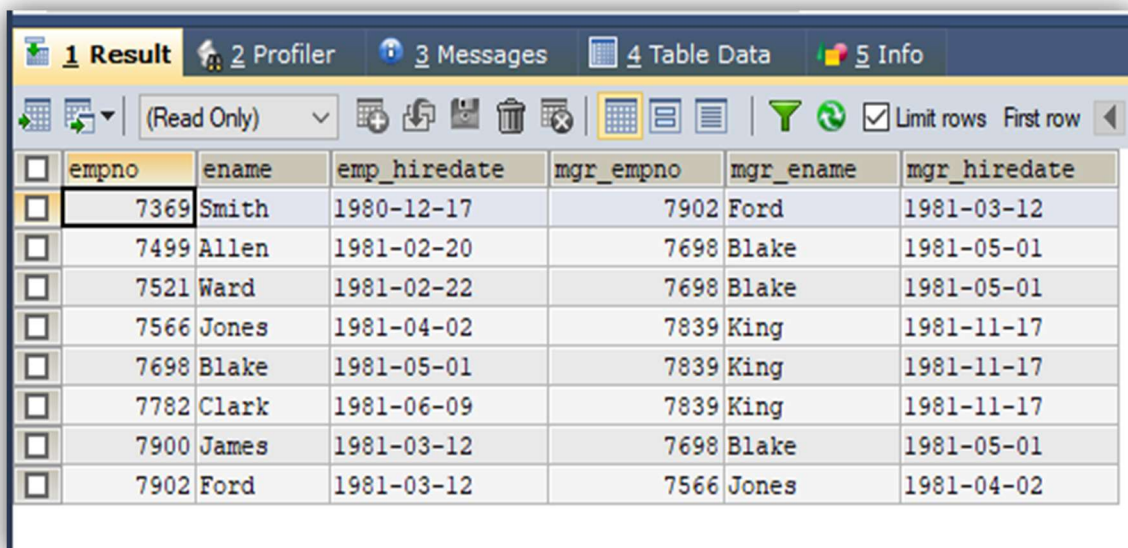
Theory Assignment

Module: Java Rdbms & Database program With Jdbc

13. List the Emps who are senior to their own MGRS.

Ans. SELECT

```
e1.empno, e1.ename,  
e1.hiredate AS emp_hiredate,  
e2.empno AS mgr_empno,  
e2.ename AS mgr_ename,  
e2.hiredate AS mgr_hiredate  
FROM  
emp e1  
JOIN  
emp e2  
ON e1.mgr = e2.empno  
WHERE e1.hiredate < e2.hiredate;
```



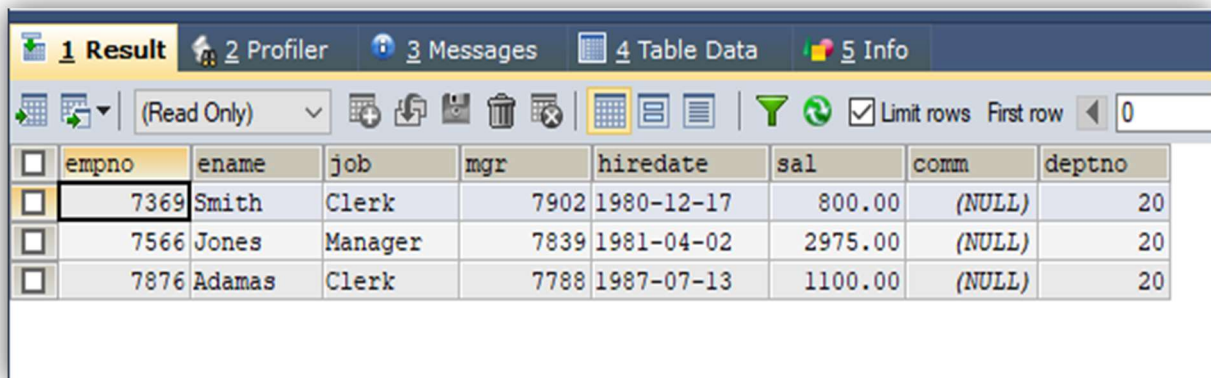
empno	ename	emp_hiredate	mgr_empno	mgr_ename	mgr_hiredate
7369	Smith	1980-12-17	7902	Ford	1981-03-12
7499	Allen	1981-02-20	7698	Blake	1981-05-01
7521	Ward	1981-02-22	7698	Blake	1981-05-01
7566	Jones	1981-04-02	7839	King	1981-11-17
7698	Blake	1981-05-01	7839	King	1981-11-17
7782	Clark	1981-06-09	7839	King	1981-11-17
7900	James	1981-03-12	7698	Blake	1981-05-01
7902	Ford	1981-03-12	7566	Jones	1981-04-02

Theory Assignment

Module: Java Rdbms & Amp; Database program With Jdbc

14. List the Emps of Deptno 20 who's Jobs are same as Deptno10.

Ans. SELECT *FROM emp e1 WHERE deptno = 20 AND job IN (
SELECT DISTINCT job
FROM emp
WHERE deptno = 10
);



The screenshot shows a database query result in a table with 8 columns: empno, ename, job, mgr, hiredate, sal, comm, and deptno. The table contains three rows of data, all from department 20. The jobs are Clerk, Manager, and Clerk, which are the distinct jobs from department 10.

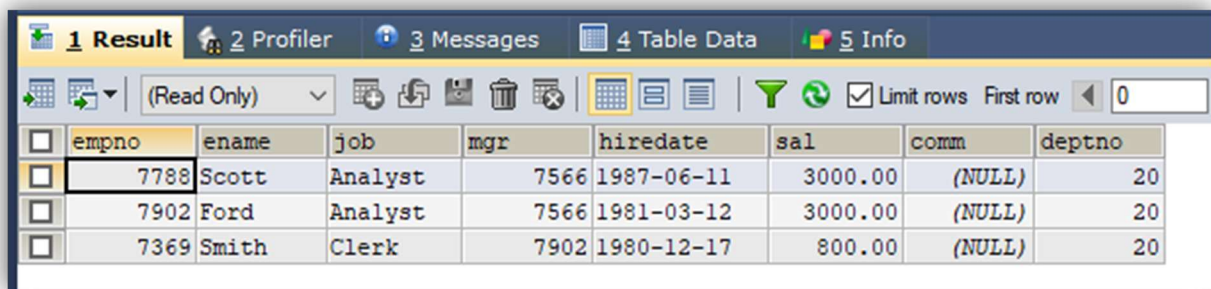
empno	ename	job	mgr	hiredate	sal	comm	deptno
7369	Smith	Clerk	7902	1980-12-17	800.00	(NULL)	20
7566	Jones	Manager	7839	1981-04-02	2975.00	(NULL)	20
7876	Adamas	Clerk	7788	1987-07-13	1100.00	(NULL)	20

15. List the Emps who's Sal is same as FORD or SMITH in desc order of Sal.

Ans. SELECT * FROM emp
WHERE sal IN (
SELECT sal
FROM emp
WHERE ename IN ('FORD', 'SMITH')
) ORDER BY sal DESC;

Theory Assignment

Module: Java Rdbms & Database program With Jdbc

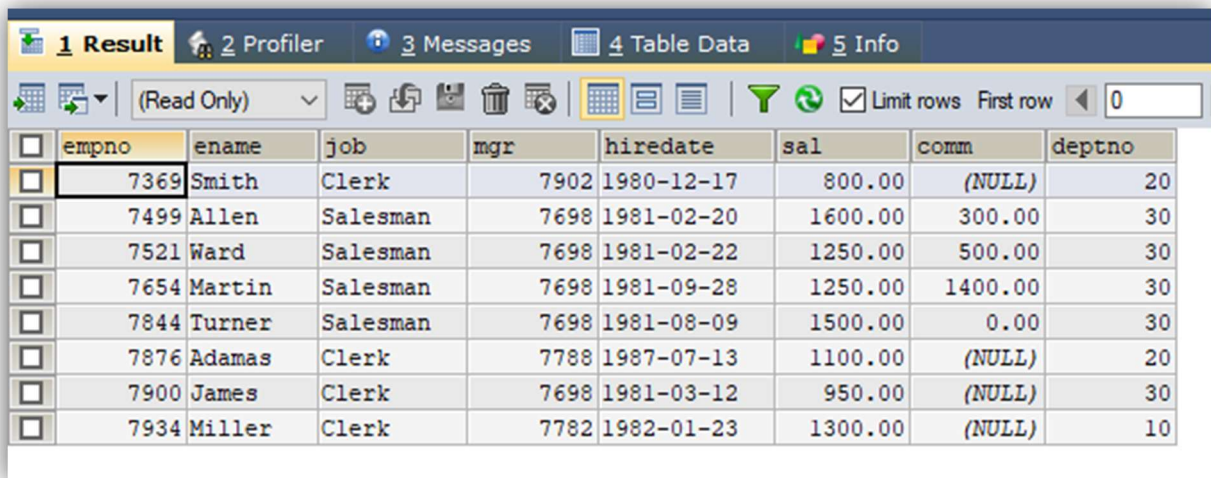


The screenshot shows the SQL Developer interface with a query result table. The table has columns: empno, ename, job, mgr, hiredate, sal, comm, and deptno. The data rows are:

empno	ename	job	mgr	hiredate	sal	comm	deptno
7788	Scott	Analyst	7566	1987-06-11	3000.00	(NULL)	20
7902	Ford	Analyst	7566	1981-03-12	3000.00	(NULL)	20
7369	Smith	Clerk	7902	1980-12-17	800.00	(NULL)	20

16. List the emps whose jobs same as SMITH or ALLEN.

Ans. SELECT *FROM emp WHERE job IN (
SELECT job
FROM emp
WHERE ename IN ('SMITH', 'ALLEN'));



The screenshot shows the SQL Developer interface with a query result table. The table has columns: empno, ename, job, mgr, hiredate, sal, comm, and deptno. The data rows are:

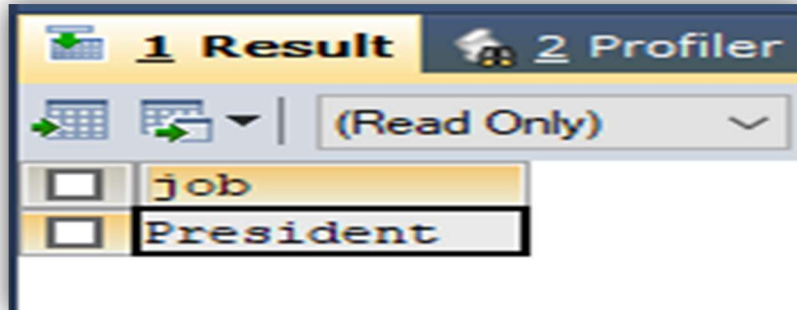
empno	ename	job	mgr	hiredate	sal	comm	deptno
7369	Smith	Clerk	7902	1980-12-17	800.00	(NULL)	20
7499	Allen	Salesman	7698	1981-02-20	1600.00	300.00	30
7521	Ward	Salesman	7698	1981-02-22	1250.00	500.00	30
7654	Martin	Salesman	7698	1981-09-28	1250.00	1400.00	30
7844	Turner	Salesman	7698	1981-08-09	1500.00	0.00	30
7876	Adamas	Clerk	7788	1987-07-13	1100.00	(NULL)	20
7900	James	Clerk	7698	1981-03-12	950.00	(NULL)	30
7934	Miller	Clerk	7782	1982-01-23	1300.00	(NULL)	10

**17. Any jobs of dept no 10 those that are not found in
Dept no 20.**

Ans. SELECT DISTINCT job FROM emp WHERE deptno = 10
AND job NOT IN (SELECT DISTINCT job FROM emp
WHERE deptno = 20);

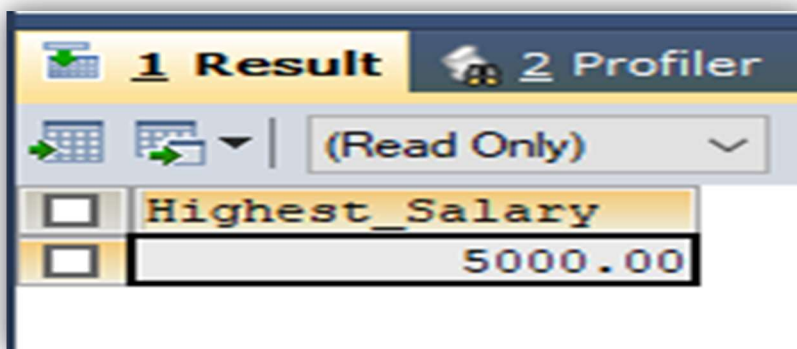
Theory Assignment

Module: Java Rdbms & Amp; Database program With Jdbc



18. Find the highest sal of EMP table.

Ans. SELECT MAX(sal) AS Highest_Salary FROM emp;

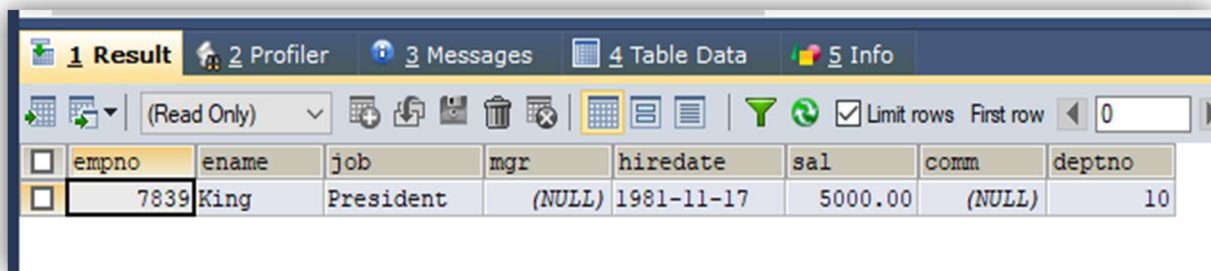


19. Find details of highest paid employee.

Ans. SELECT *
FROM emp
WHERE sal = (
SELECT MAX(sal)
FROM emp
);

Theory Assignment

Module: Java Rdbms & Amp; Database program With Jdbc



The screenshot shows the SQL Developer interface with the '1 Result' tab selected. The table data is as follows:

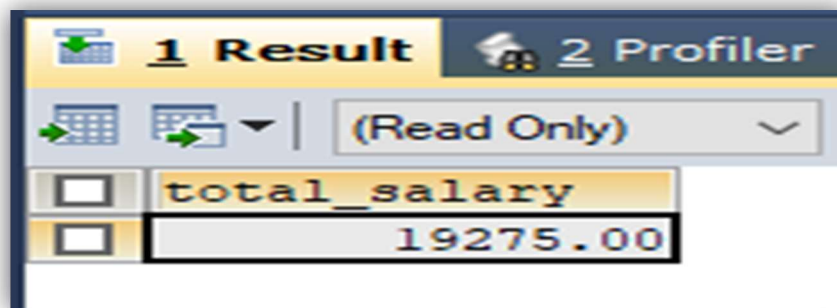
empno	ename	job	mgr	hiredate	sal	comm	deptno
7839	King	President	(NULL)	1981-11-17	5000.00	(NULL)	10

20. Find the total sal given to the MGR.

Ans. SELECT SUM(sal) AS total_salary

FROM emp

WHERE empno IN (SELECT DISTINCT mgr FROM emp);

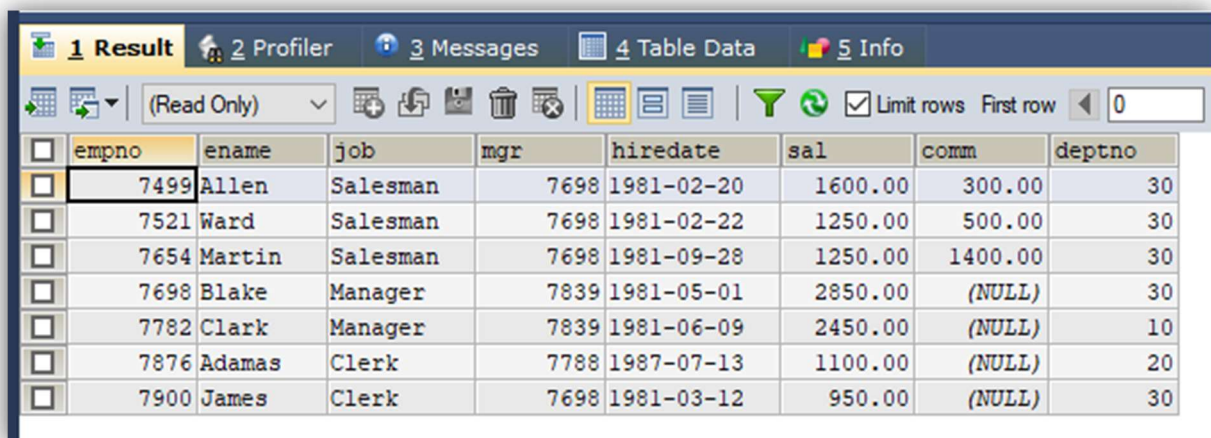


The screenshot shows the SQL Developer interface with the '1 Result' tab selected. The query result is as follows:

total_salary
19275.00

21. List the emps whose names contains 'A'.

Ans. SELECT * FROM emp WHERE ename LIKE "%A%";



The screenshot shows the SQL Developer interface with the '1 Result' tab selected. The query result is as follows:

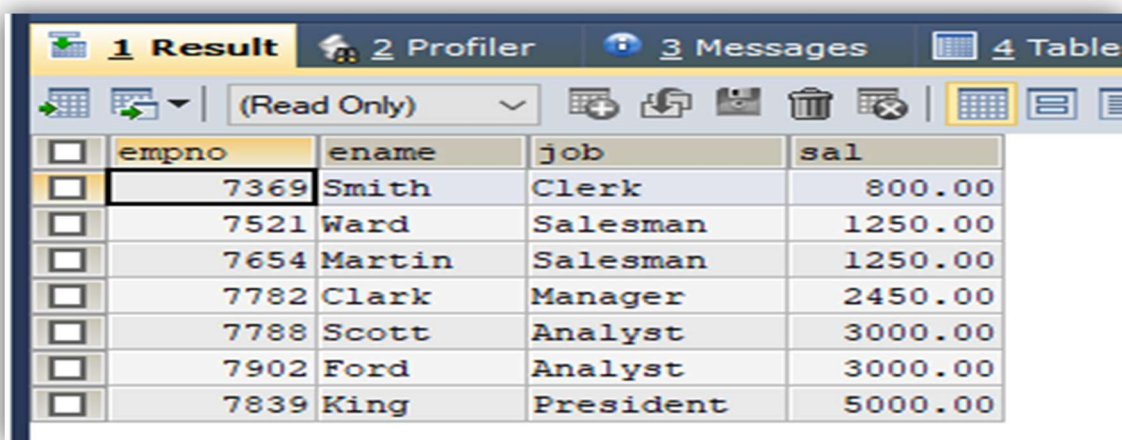
empno	ename	job	mgr	hiredate	sal	comm	deptno
7499	Allen	Salesman	7698	1981-02-20	1600.00	300.00	30
7521	Ward	Salesman	7698	1981-02-22	1250.00	500.00	30
7654	Martin	Salesman	7698	1981-09-28	1250.00	1400.00	30
7698	Blake	Manager	7839	1981-05-01	2850.00	(NULL)	30
7782	Clark	Manager	7839	1981-06-09	2450.00	(NULL)	10
7876	Adamas	Clerk	7788	1987-07-13	1100.00	(NULL)	20
7900	James	Clerk	7698	1981-03-12	950.00	(NULL)	30

Theory Assignment

Module: Java Rdbms & Database program With Jdbc

22. Find all the emps who earn the minimum salary for each job wise in ascending order.

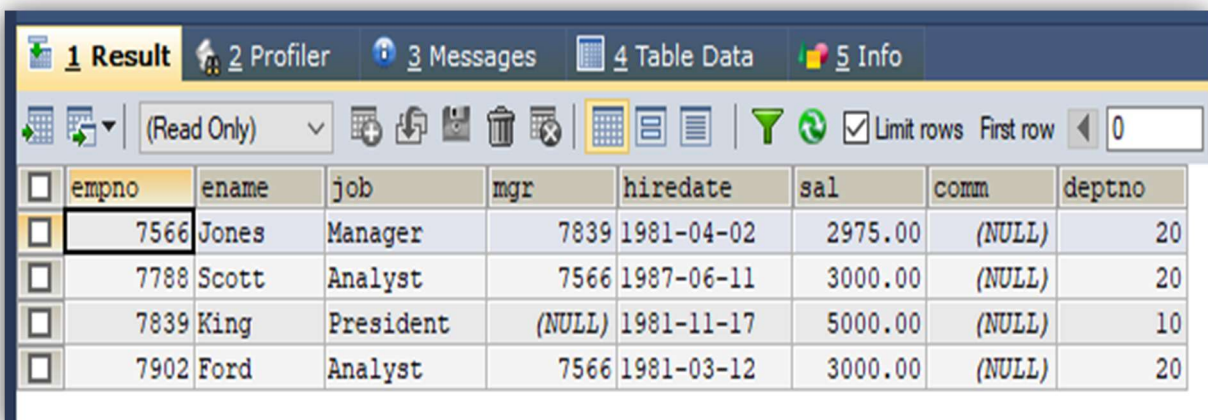
Ans. SELECT empno, ename, job, sal FROM emp WHERE (job, sal) IN (SELECT job, MIN (sal) FROM emp GROUP BY job) ORDER BY sal ASC ;



empno	ename	job	sal
7369	Smith	Clerk	800.00
7521	Ward	Salesman	1250.00
7654	Martin	Salesman	1250.00
7782	Clark	Manager	2450.00
7788	Scott	Analyst	3000.00
7902	Ford	Analyst	3000.00
7839	King	President	5000.00

23. List the emps whose sal greater than Blake's sal.

Ans. SELECT * FROM emp WHERE sal > (SELECT sal FROM emp WHERE ename = 'BLAKE');



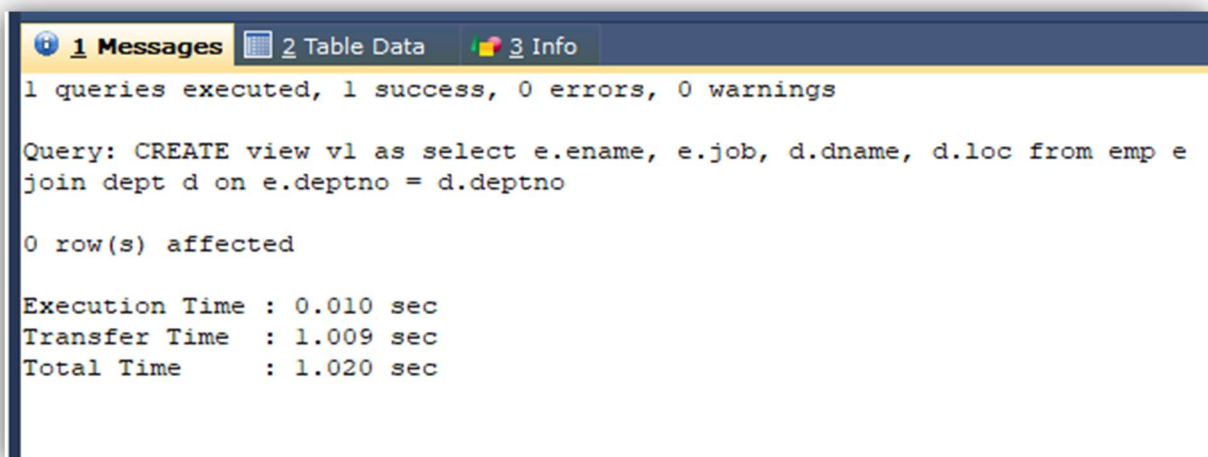
empno	ename	job	mgr	hiredate	sal	comm	deptno
7566	Jones	Manager	7839	1981-04-02	2975.00	(NULL)	20
7788	Scott	Analyst	7566	1987-06-11	3000.00	(NULL)	20
7839	King	President	(NULL)	1981-11-17	5000.00	(NULL)	10
7902	Ford	Analyst	7566	1981-03-12	3000.00	(NULL)	20

Theory Assignment

Module: Java Rdbms & Database program With Jdbc

24. Create view v1 to select ename, job, dname, loc whose deptno are same.

Ans. CREATE VIEW v1 AS SELECT e.ename, e.job, d.dname, d.loc
FROM emp e JOIN dept d ON e.deptno = d.deptno;



The screenshot shows a database client window with three tabs: '1 Messages', '2 Table Data', and '3 Info'. The 'Messages' tab is active, displaying the following text:

```
1 queries executed, 1 success, 0 errors, 0 warnings

Query: CREATE view v1 as select e.ename, e.job, d.dname, d.loc from emp e
join dept d on e.deptno = d.deptno

0 row(s) affected

Execution Time : 0.010 sec
Transfer Time : 1.009 sec
Total Time : 1.020 sec
```

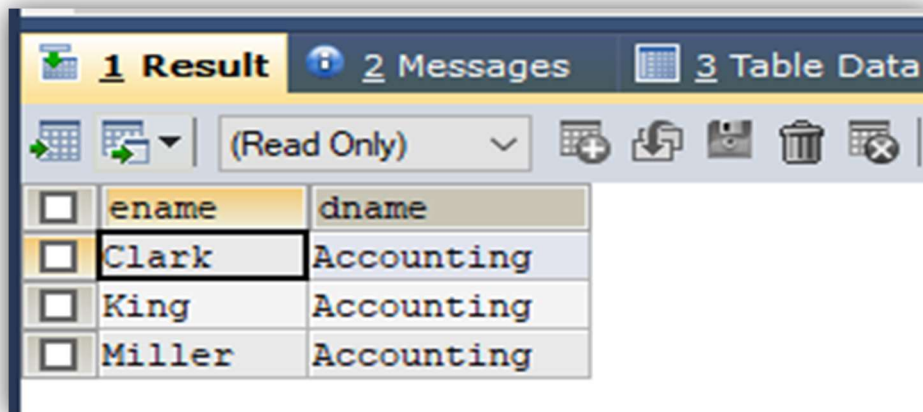
25. Create a procedure with dno as input parameter to fetch ename and dname.

Ans. DELIMITER \$\$

```
CREATE PROCEDURE fetch_ename_dname (IN p_dno INT)
BEGIN
SELECT e.ename, d.dname
FROM emp e
JOIN dept d ON e.deptno = d.deptno
WHERE e.deptno = p_dno;
END $$
DELIMITER ;
```

Theory Assignment

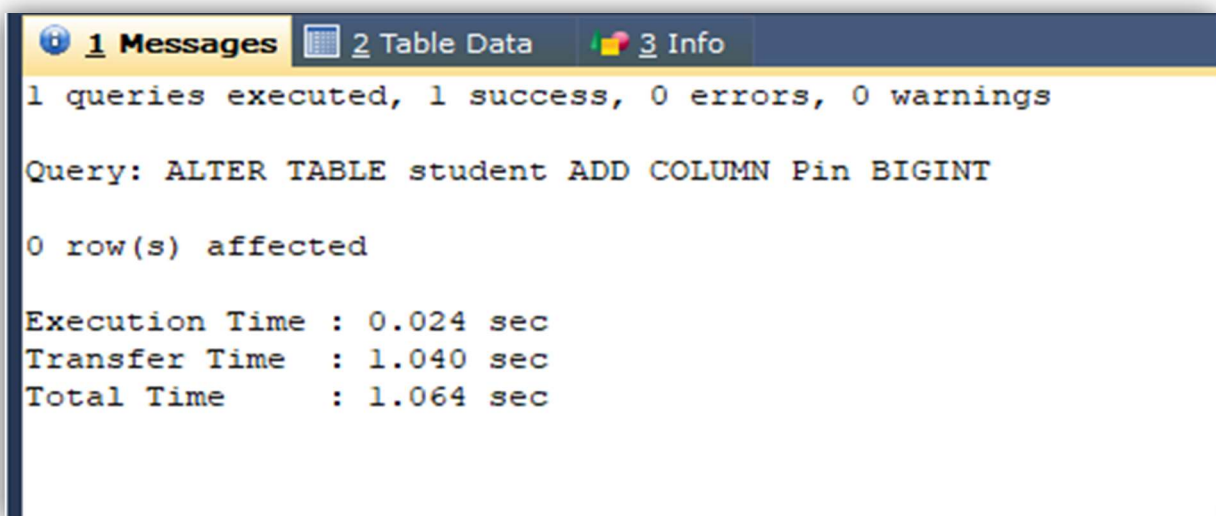
Module: Java Rdbms & Amp; Database program With Jdbc



<input type="checkbox"/>	ename	dname
<input type="checkbox"/>	Clark	Accounting
<input type="checkbox"/>	King	Accounting
<input type="checkbox"/>	Miller	Accounting

26. Add column Pin with bigint data type in table student.

Ans. ALTER TABLE student ADD COLUMN Pin BIGINT;



```
1 queries executed, 1 success, 0 errors, 0 warnings

Query: ALTER TABLE student ADD COLUMN Pin BIGINT

0 row(s) affected

Execution Time : 0.024 sec
Transfer Time : 1.040 sec
Total Time : 1.064 sec
```

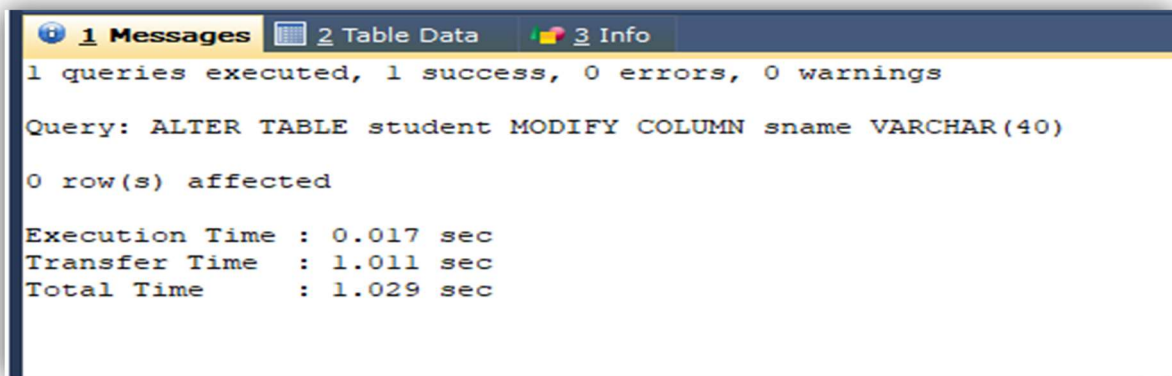
27. Two Queries.

1) Modify the student table to change the sname length from 14 to 40.

Ans. ALTER TABLE student MODIFY COLUMN sname
VARCHAR(40);

Theory Assignment

Module: Java Rdbms & Database program With Jdbc



The screenshot shows a database client window with three tabs: '1 Messages', '2 Table Data', and '3 Info'. The 'Messages' tab is active, displaying the following text:

```
1 queries executed, 1 success, 0 errors, 0 warnings  
Query: ALTER TABLE student MODIFY COLUMN sname VARCHAR(40)  
0 row(s) affected  
Execution Time : 0.017 sec  
Transfer Time : 1.011 sec  
Total Time : 1.029 sec
```

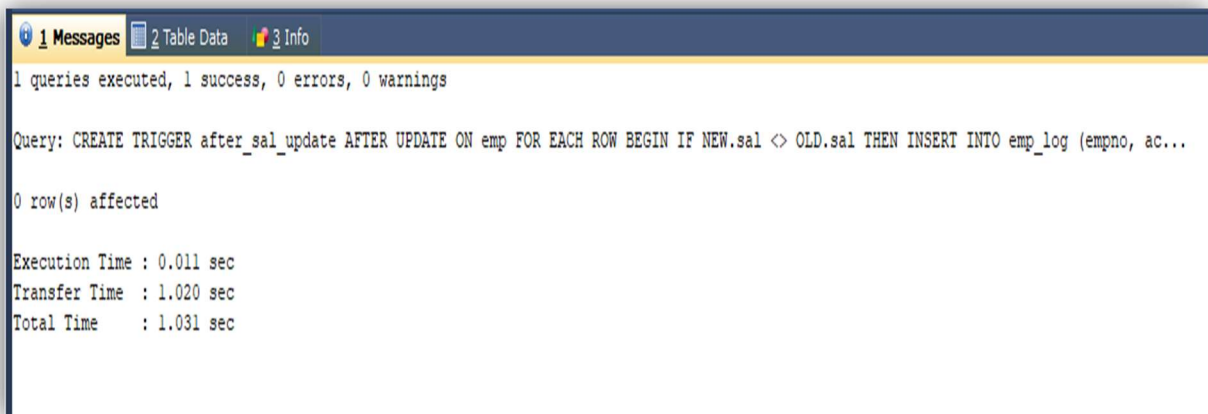
2) Create trigger to insert data in emp_log table whenever any update of sal in EMP table. You can set action as 'New Salary'.

Ans. DELIMITER \$\$

```
CREATE TRIGGER after_sal_update  
AFTER UPDATE ON emp  
FOR EACH ROW  
BEGIN  
IF NEW.sal <> OLD.sal THEN  
INSERT INTO emp_log (empno, ACTION, old_sal, new_sal,  
update_time)  
VALUES (NEW.empno, 'New Salary', OLD.sal, NEW.sal,  
NOW());  
END IF;  
END $$  
DELIMITER ;
```

Theory Assignment

Module: Java Rdbms & Amp; Database program With Jdbc



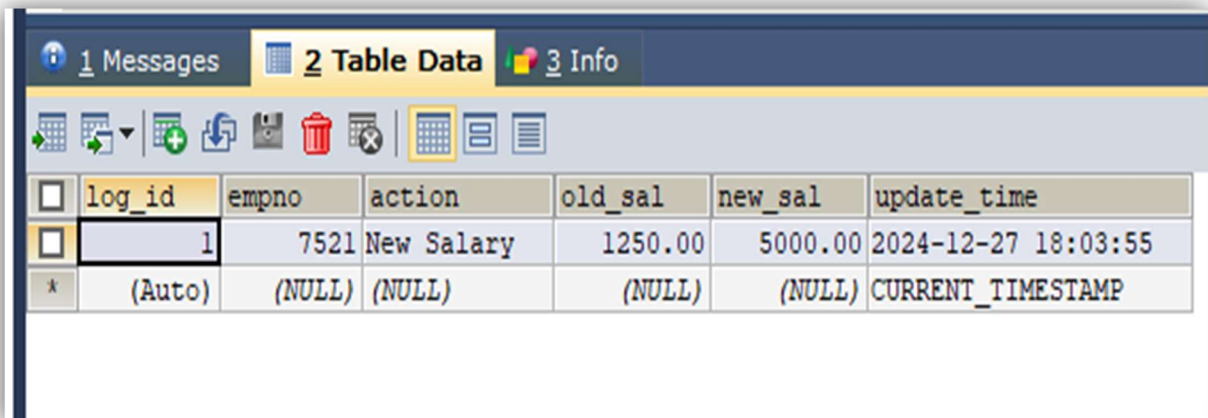
1 Messages 2 Table Data 3 Info

1 queries executed, 1 success, 0 errors, 0 warnings

Query: CREATE TRIGGER after_sal_update AFTER UPDATE ON emp FOR EACH ROW BEGIN IF NEW.sal <> OLD.sal THEN INSERT INTO emp_log (empno, ac...

0 row(s) affected

Execution Time : 0.011 sec
Transfer Time : 1.020 sec
Total Time : 1.031 sec



1 Messages 2 Table Data 3 Info

	log_id	empno	action	old_sal	new_sal	update_time
	1	7521	New Salary	1250.00	5000.00	2024-12-27 18:03:55
*	(Auto)	(NULL)	(NULL)	(NULL)	(NULL)	CURRENT_TIMESTAMP

.....End.....