NAME: JUNAID GIRKAR

SAP ID: 60004190057

DIV: SE A (A3) COMPS

EXPERIMENT 6

AIM: Nested queries and Complex queries

THEORY:

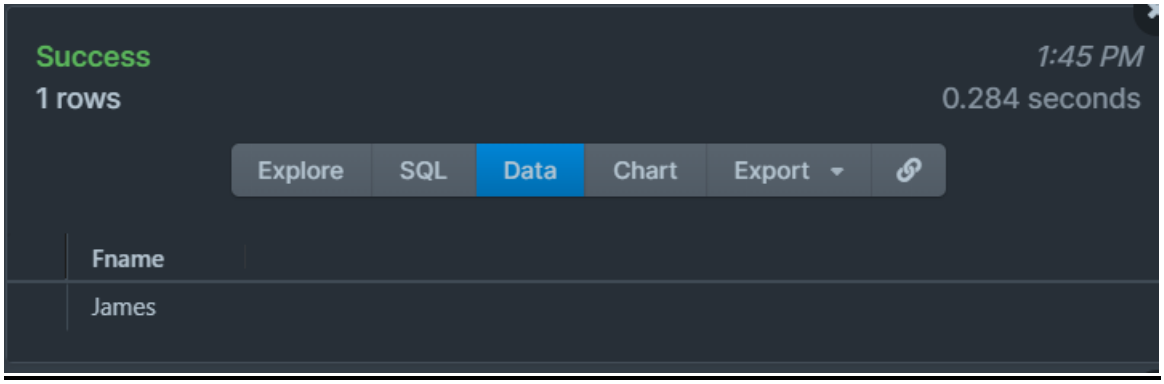
A Subquery or Inner query or Nested query is a query within another SQL
query and embedded within the WHERE clause.
A subquery is used to return data that will be used in the main query as a condition to
further restrict the data to be retrieved.
Subqueries can be used with the SELECT, INSERT, UPDATE, and DELETE
statements along with the operators like =, <, >, >=, <=, IN, BETWEEN etc.

SYNTAX:

```
SELECT column_name [, column_name ]
FROM table1 [, table2 ]
WHERE column_name OPERATOR
(SELECT column_name [, column_name ]
FROM table1 [, table2 ]
[WHERE])
```

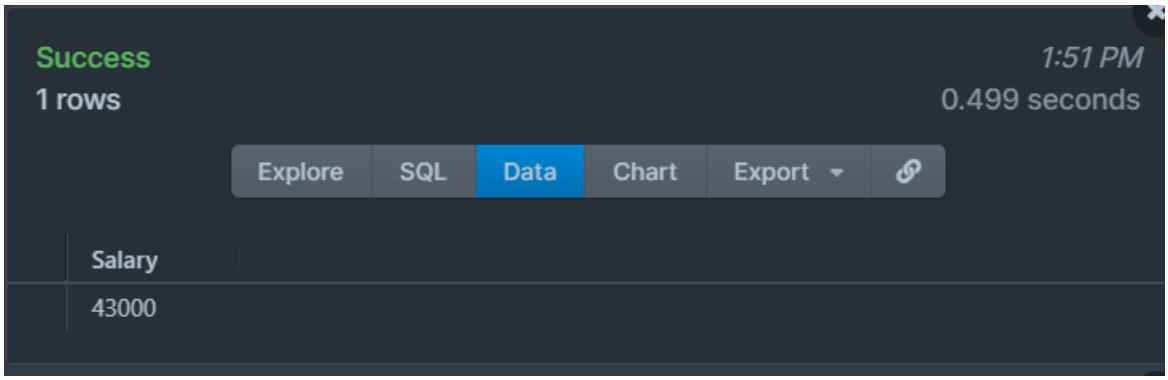
Q1. display Fname of employee taking maximum salary

select Fname from employee where Salary = (select max(Salary) from employee)



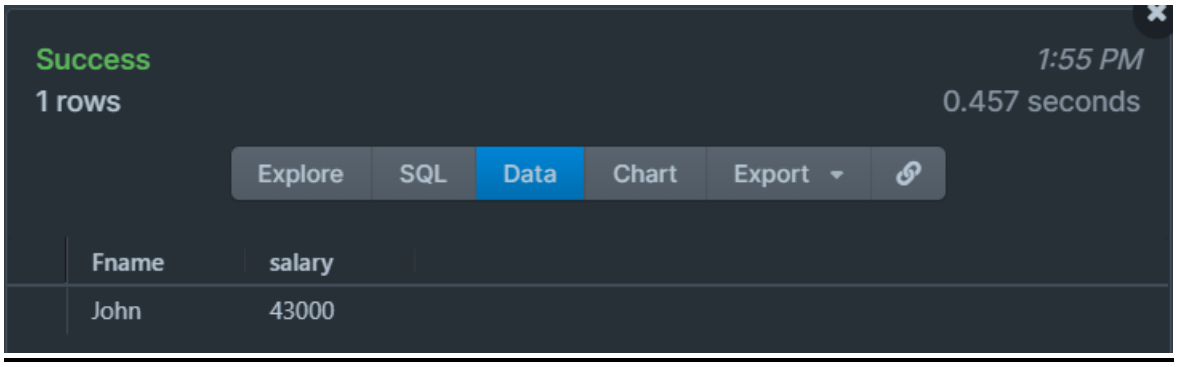
Q2.display second largest salary from employee table

SELECT Salary FROM (SELECT Salary FROM Employee ORDER BY salary DESC LIMIT 2) AS Emp ORDER BY salary LIMIT 1;



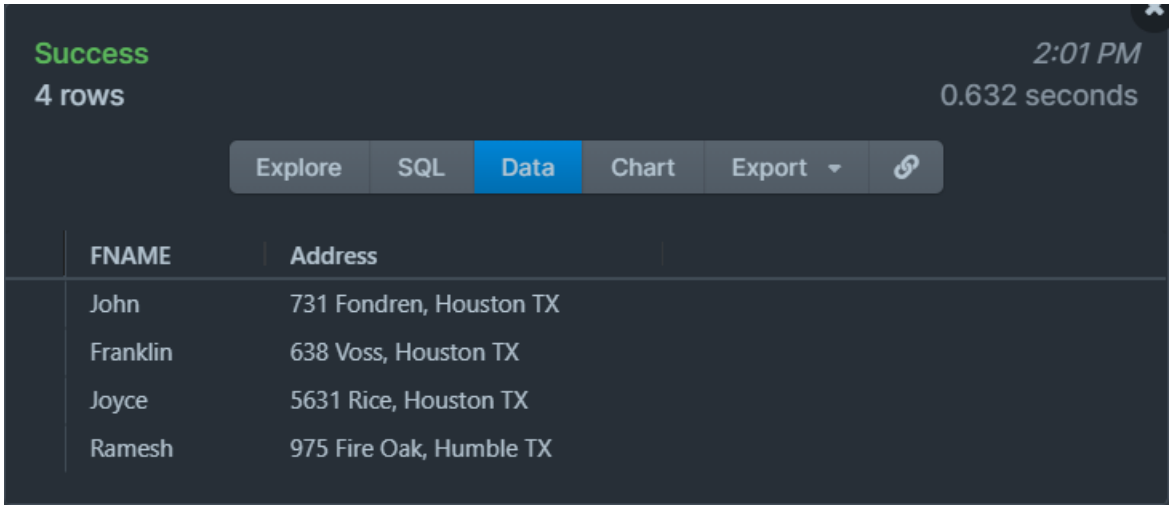
Q3.display fname of employee taking second largest salary

SELECT Fname, MAX(salary) AS salary FROM employee WHERE salary < (SELECT MAX(salary) FROM employee);



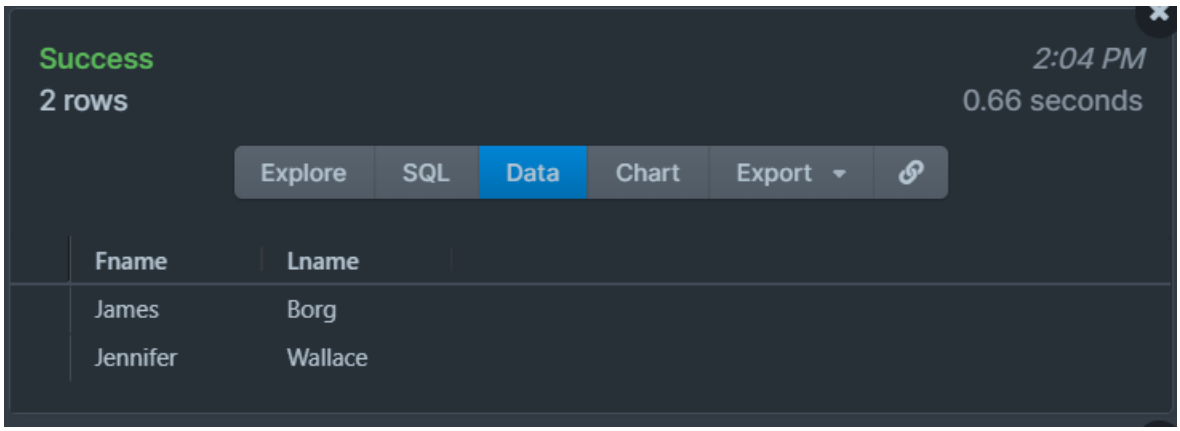
Q4. select fname and address of all the employees who work for 'Research' department

```
SELECT FNAME, Address
FROM (EMPLOYEE JOIN DEPARTMENT ON DNO = DNUMBER)
WHERE DNAME = 'RESEARCH';
```



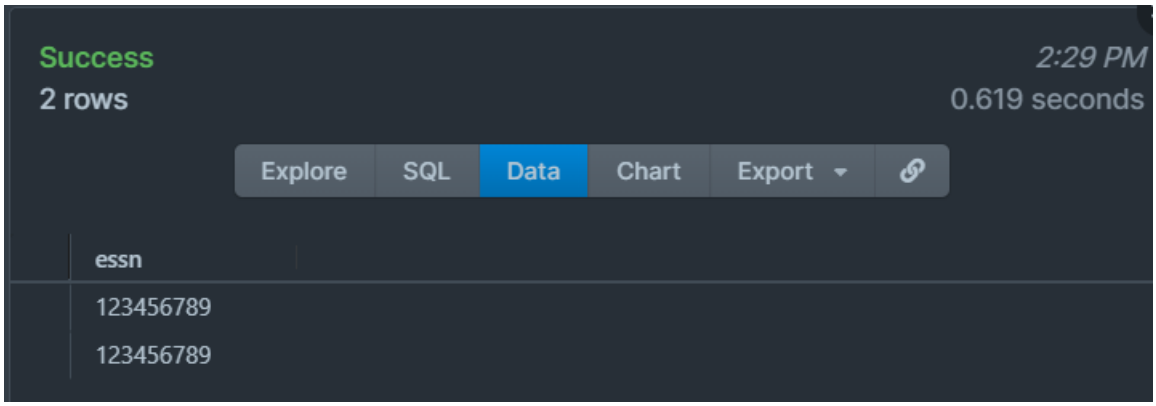
Q5. display name of employees whose salary is greater than the salary of all the employees in department 5

```
select Fname, Lname from employee where Salary > ALL(Select Salary from employee where DNO = 5);
```



Q6. select ssn of employee who work on the same (project,hours) combination that employee 'john smith' works on

```
select Essn from works_on where (Pno, Hours) in (select Pno, Hours from works_on where essn in (select Ssn from employee where Fname='John' and Lname='Smith'));
```



Q7. retrieve the name of each employee whose salary is greater than his own departments average salary.

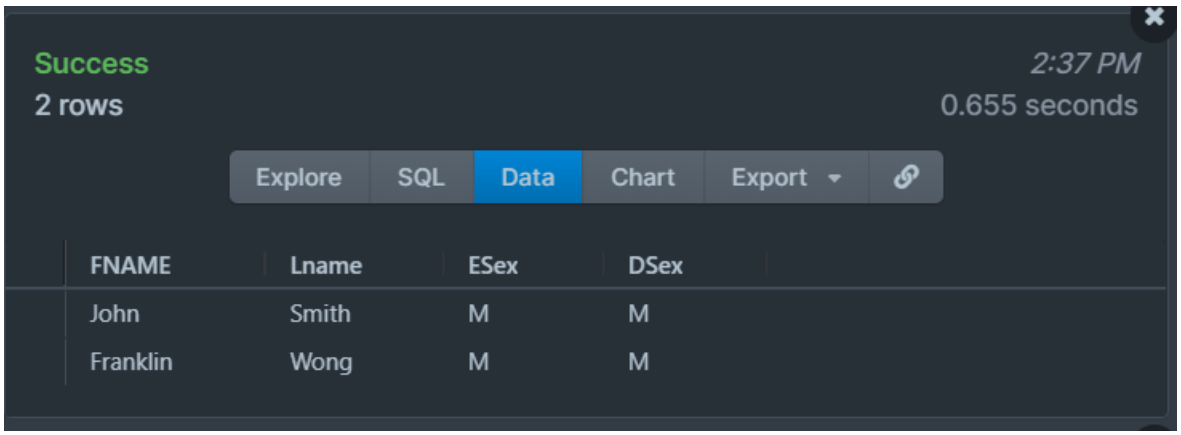
```
Select E.FNAME, E.LNAME FROM employee E where E.SALARY > (SELECT AVG(SALARY) FROM EMPLOYEE S WHERE E.DNO=S.DNO);
```

```
+----------+---------+
| FNAME    | LNAME   |
+----------+---------+
| Franklin | Wong    |
| Ramesh   | Narayan |
| Jennifer | Wallace |
+----------+---------+
3 rows in set (0.20 sec)
```

Q8. retrieve the name of each employee who has dependent with the same gender as the employee itself.

SELECT FNAME, Lname, Employee.Sex AS ESex, dependent.Sex AS DSex

FROM EMPLOYEE, DEPENDENT WHERE SSN=ESSN AND Employee.Sex=Dependent.Sex;



CONCLUSION: Database is searched for various nested and correlated queries.