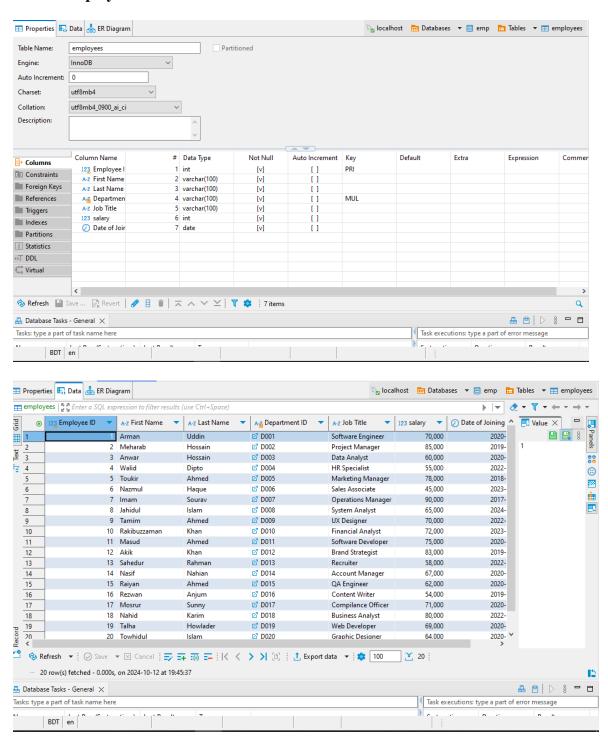
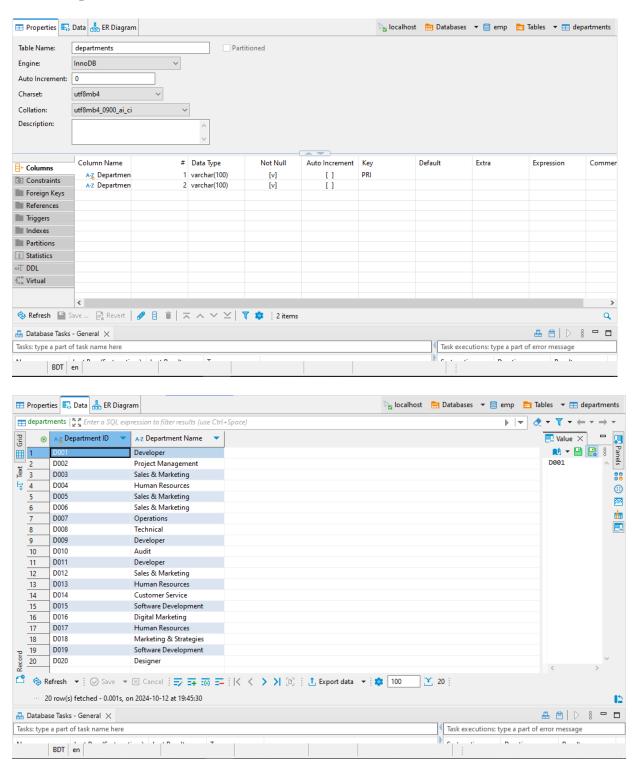
# Project 01: Employee Management System

## **Database Design:**

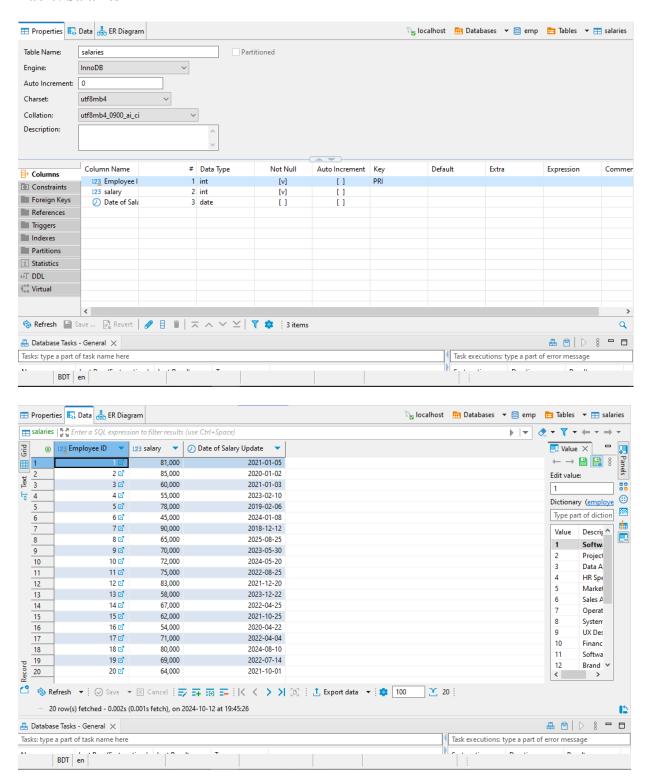
#### **Table: Employees**



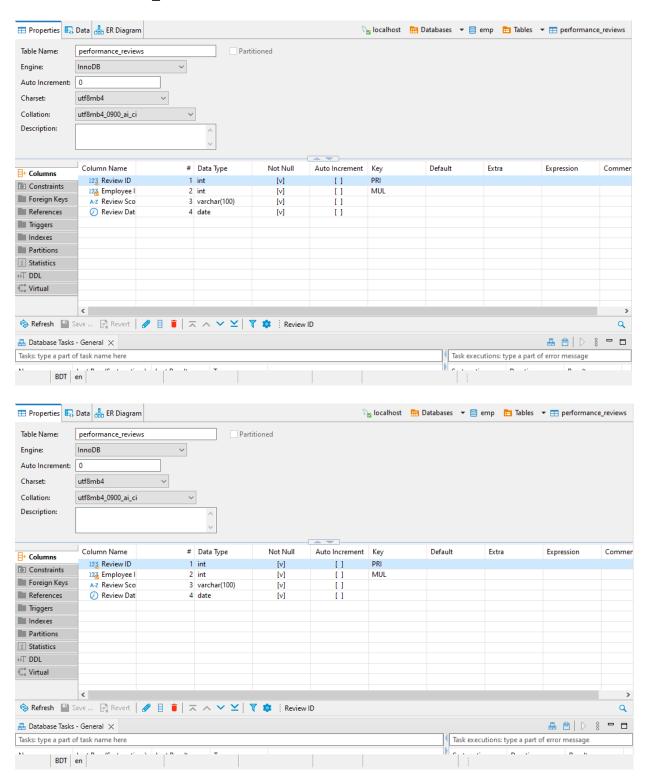
## **Table: Departments**



#### **Table: Salaries**



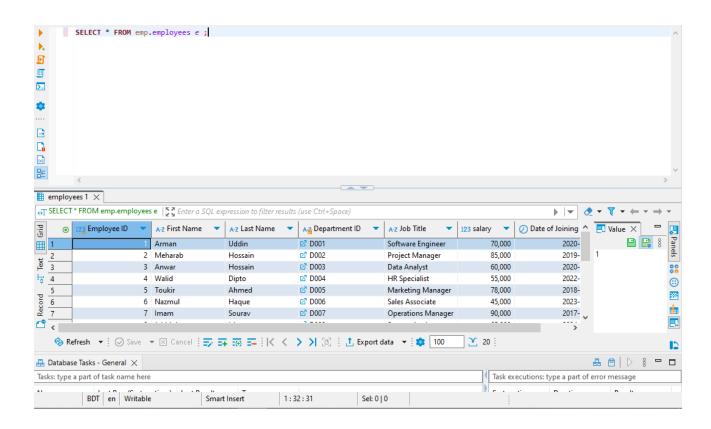
#### Table: Performance reviews



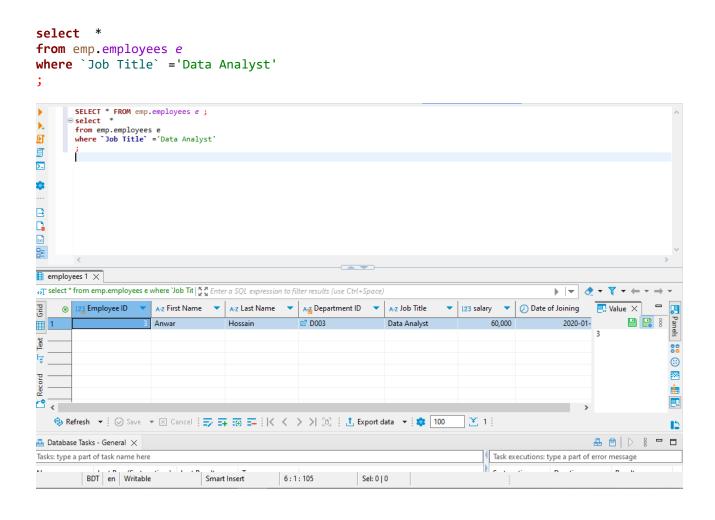
#### **Basic Queries:**

# --Retrieve all employees' data using SELECT \*--

**SELECT** \* **FROM** emp.employees e;

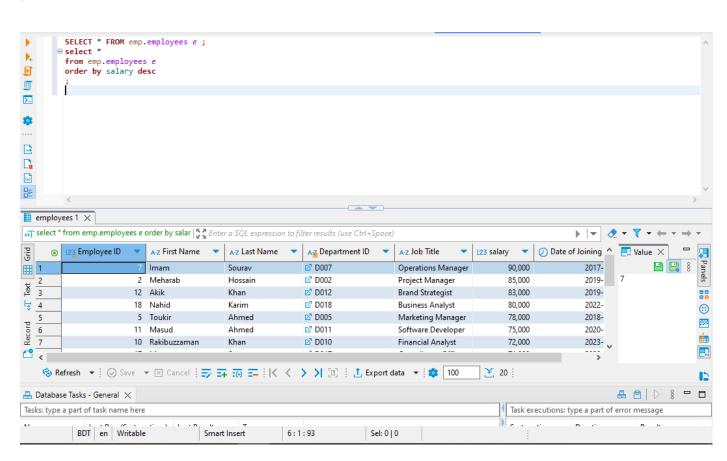


## --Filter employees by department or job title using the WHERE clause--



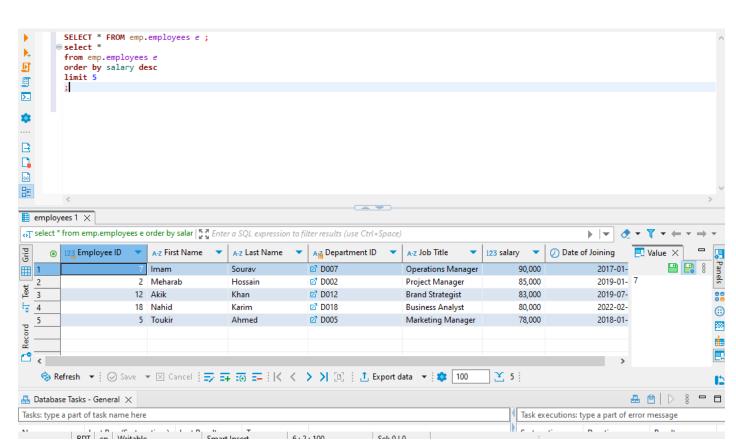
# --Sort employees by salary or date of joining using `ORDER BY`--

```
select *
from emp.employees e
order by salary desc
;
```



#### --Use LIMIT to display only the top 5 highest-paid employees--

```
select *
from emp.employees e
order by salary desc
limit 5
;
```



--Use JOIN statements to retrieve employees along with their department names or salaries--

\*Inner join:

```
select *
from emp.employees e
inner join emp.departments d on
e.`Department ID` = d.`Department ID`
         SELECT * FROM emp.employees e; select *
1
         from emp.employees e
         inner join emp.departments d on
e.`Department ID` = d.`Department ID`;
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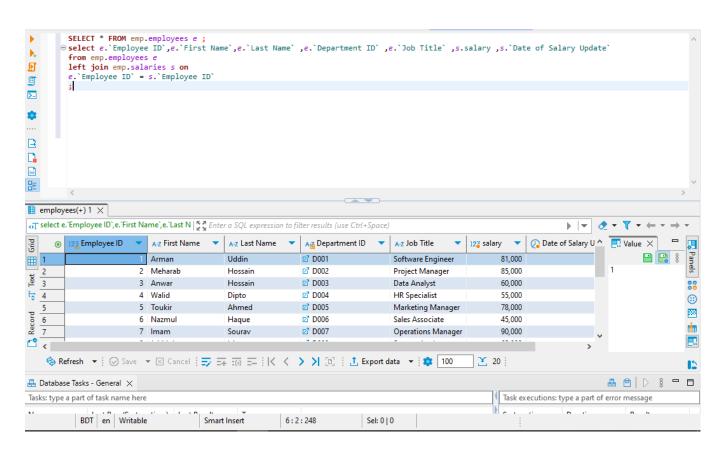
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```

## \*Left join:

```
select e.`Employee ID`,e.`First Name`,e.`Last Name` ,e.`Department ID` ,e.`Job Title`
,s.salary ,s.`Date of Salary Update`
from emp.employees e
left join emp.salaries s on
e.`Employee ID` = s.`Employee ID`
;
```



## \*Right join:

```
select e.`Employee ID`, e.`First Name`,e.`Last Name`,e.`Department ID`,e.`Job
Title`,s.salary ,s.`Date of Salary Update`
from emp.employees e
right join emp.salaries s on
e.`Employee ID` = s.`Employee ID`
         SELECT * FROM emp.employees e;
         select e.`Employee ID`, e.`First Name`,e.`Last Name`,e.`Department ID`,e.`Job Title`,s.salary ,s.`Date of Salary Update`
)
         from emp.employees e
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```

## -- Use COUNT to find the total number of employees in each department--

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```
select `Department Name`, count(`Department ID`)
from emp.departments d
group by `Department Name`
      SELECT * FROM emp.employees e;

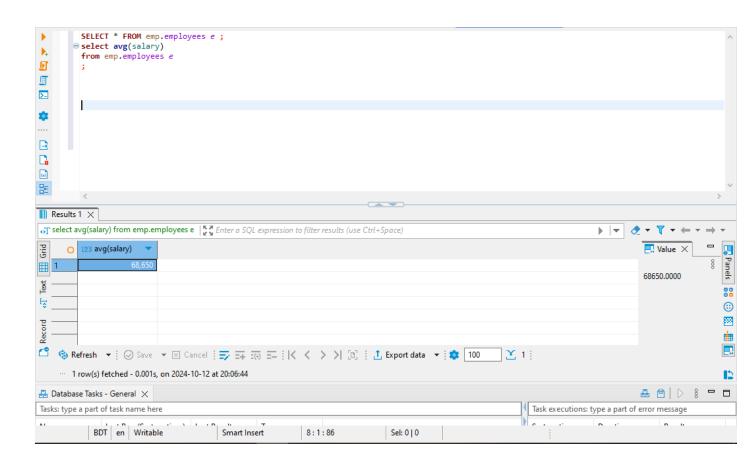
⊕ select `Department Name`, count(`Department ID`)
from emp.departments d
group by `Department Name`
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# --Use AVG to calculate the average salary of employees--

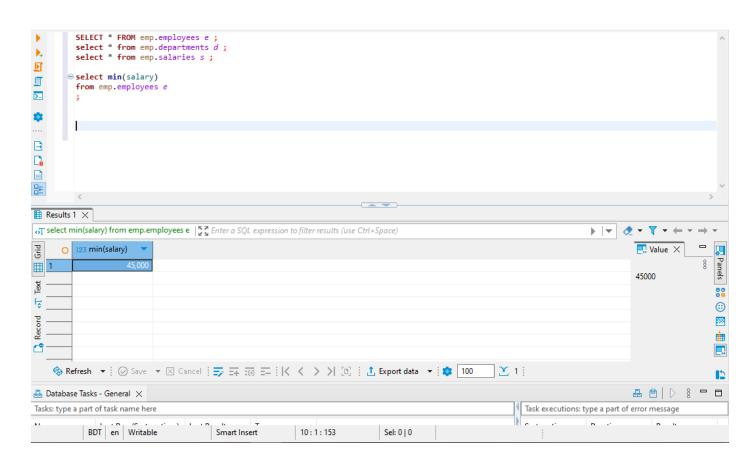
```
select avg(salary)
from emp.employees e
:
```



# --Identify the highest and lowest salaries using MAX and MIN--

```
select max(salary)
from emp.employees e
         SELECT * FROM emp.employees e ;
select * from emp.departments d ;
select * from emp.salaries s ;
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```

```
select min(salary)
from emp.employees e
:
```

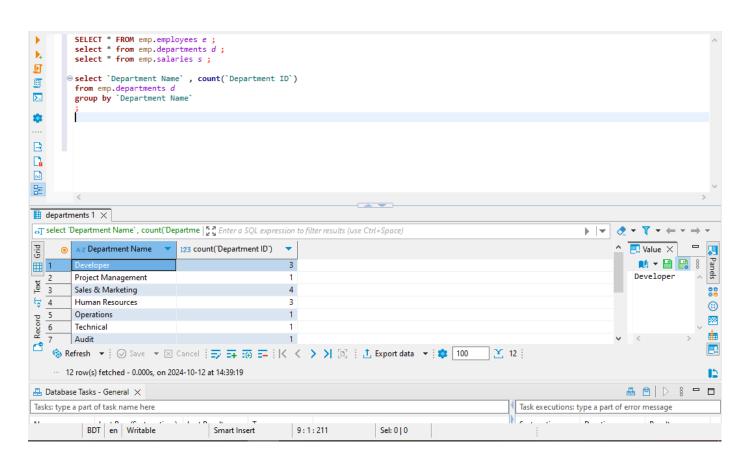


--Summarize the total salaries of each department using SUM--

```
select sum(salary)
from emp.employees e
         SELECT * FROM emp.employees e ;
select * from emp.departments d ;
select * from emp.salaries s ;
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from emp.employees e
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```

# --Use GROUP BY to group employees by department and calculate the number of employees in each department--

```
select `Department Name`, count(`Department ID`)
from emp.departments d
group by `Department Name`
:
```



# --Use HAVING to filter departments with more than 10 employees--

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```
select `Department Name`, count(*) as Total_departments
 from emp.departments d
group by `Department Name`
having count(*) > 10
                                               SELECT * FROM emp.employees e;
                                              select * from emp.departments d;
select * from emp.salaries s;
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     Þ
                                         select `Department Name`, count(*) as Total_departments
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                                              from emp.departments d
group by `Department Name`
having count(*) >10
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    select 'Department Name', count(*) as Total_c | The select 'Department
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In the datasheet, all department value is below 10. So, I add another value.

```
select `Department Name`, count(*) as Total_departments
from emp.departments d
group by `Department Name`
having count(*) >= 4
         SELECT * FROM emp.employees e ;
select * from emp.departments d ;
 1
         select * from emp.salaries s ;
F

⇒ select `Department Name`, count(*) as Total_departments

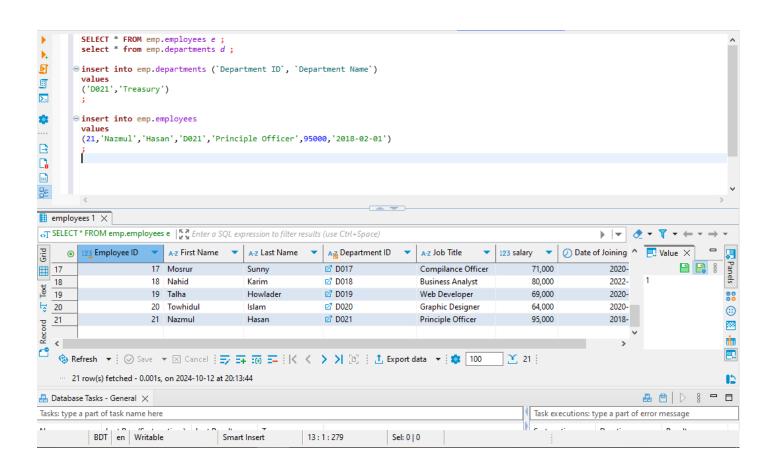
ⅉ
         from emp.departments d
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         group by `Department Name`
         having count(*) >=4
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```

--Use ROW\_NUMBER to rank employees based on their salary within each department--

```
select `Employee ID`, salary,
row_number() over (order by salary desc) as row_num
from emp.employees
         SELECT * FROM emp.employees e ;
select * from emp.departments d ;
         select * from emp.salaries s;
select * from emp.performance_reviews pr;
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       Select `Employee ID`, salary,
row_number() over (order by salary desc) as row_num
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         from emp.employees e
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```

#### -- Insert a new employee into the employees table--

```
insert into emp.employees
values
(21, 'Nazmul', 'Hasan', 'D021', 'Principle Officer', 95000, '2018-02-01');
```



## -- Update the salary of an employee in the salaries table--

```
update emp.salaries
set salary = 81000
where `Date of Salary Update` = '2021-01-05'
         SELECT * FROM emp.employees e ;
select * from emp.departments d ;
select * from emp.salaries s ;
 1
         select * from emp.performance_reviews pr ;
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       ⊖ update emp.salaries
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         set salary = 81000
         where `Date of Salary Update` = '2021-01-05'
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```

--Delete an employee who left the company from the employees' table--

```
delete from emp.employees
where salary = 95000
;
```

