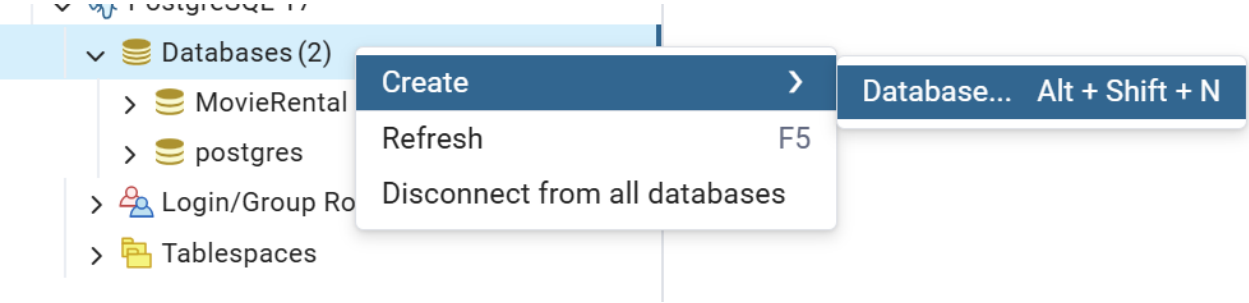
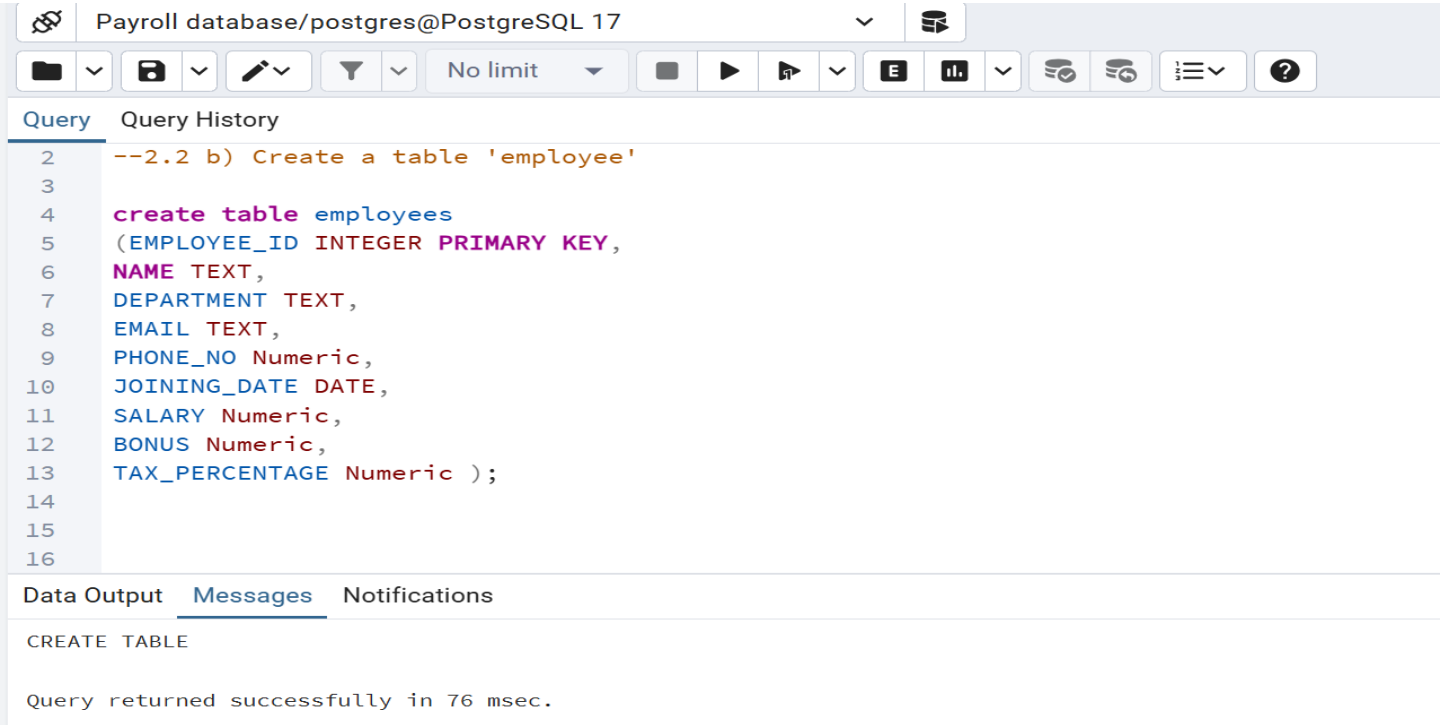
Task 2 : Project: Employee Payroll Management System (PostgreSQL)

2.1 Database Setup: Payroll database



2.1 B) Create a table **employee** with columns: EMPLOYEE_ID (integer), NAME (text), DEPARTMENT (text), EMAIL (text), PHONE_NO (numeric), JOINING_DATE (date), SALARY (numeric), BONUS (numeric), TAX_PERCENTAGE (numeric).



2.2 Data Entry: Insert 10 sample employee records.

Payroll database/postgres@PostgreSQL 17

No limit

Query | Query History

```
INSERT INTO employees (EMPLOYEE_ID,
NAME,DEPARTMENT,EMAIL,PHONE_NO,JOINING_DATE,SALARY,BONUS,TAX_PERCENTAGE) VALUES
 (211,'Shankar','Manufacturing','Shankar@gmail.com',9176221122,'2025-04-25',45000,10000,6
,(222,'Mukesh','Production','Mukesh@gmail.com',9176220413,'2025-05-26',46000,10000,6)
,(233,'Praveen','Sales','Praveen@gmail.com',9176220474,'2025-07-27',40000,10000,6)
,(244,'Shrinath','Manufacturing','Shrinath@gmail.com',9176110415,'2025-04-21',40000,10000
,(255,'Vignesh','Sales','Vignesh@gmail.com',9176239116,'2025-04-22',45000,10000,6)
,(266,'Vimalrka','R & D','Vimalrka@gmail.com',9135674171,'2025-07-28',45000,10000,6)
,(277,'Kamaraj','Sales','Kamaraj@gmail.com',9176220418,'2025-05-31',49000,10000,6)
,(288,'Sekar','Design','Sekar@gmail.com',9176231418,'2025-03-18',51000,10000,6)
,(299,'Lokesh','Quality','Lokesh@gmail.com',9176276751,'2025-02-08',55000,10000,6)
,(311,'Joshua','R & D','Joshua@gmail.com',9176220498,'2025-05-30',43000,10000,6);
```

Data Output | Messages | Notifications

```
INSERT 0 10

Query returned successfully in 64 msec.
```

2.3 Payroll Queries:

a) Retrieve the list of employees sorted by salary in descending order.

```
--a) Retrieve the list of employees sorted by salary in descending order.

Select e.name as Employee_name,e.salary
from employees e
order by salary desc;
```

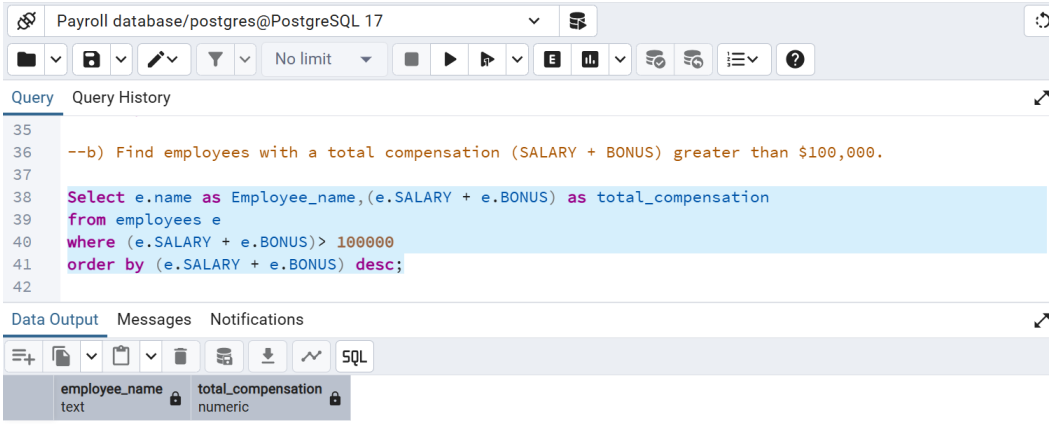
Data Output | Messages | Notifications

Showing rows: 1 to 10 | Page No: 1 of 1

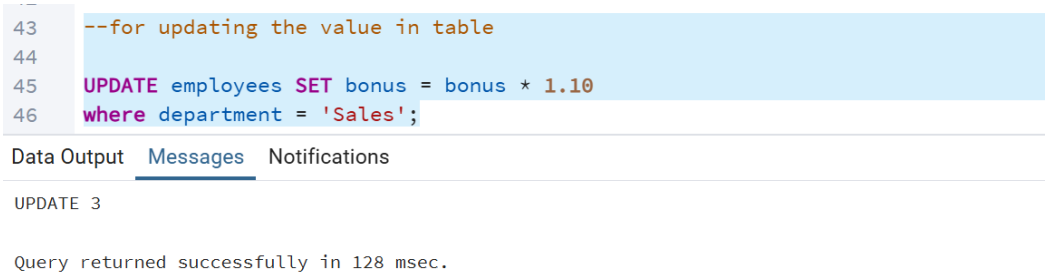
	employee_name text	salary numeric
1	Lokesh	55000
2	Sekar	51000
3	Kamaraj	49000
4	Mukesh	46000
5	Shankar	45000
6	Vignesh	45000

Total rows: 10 | Query complete 00:00:00.562 | CRLF | Ln 35, Col

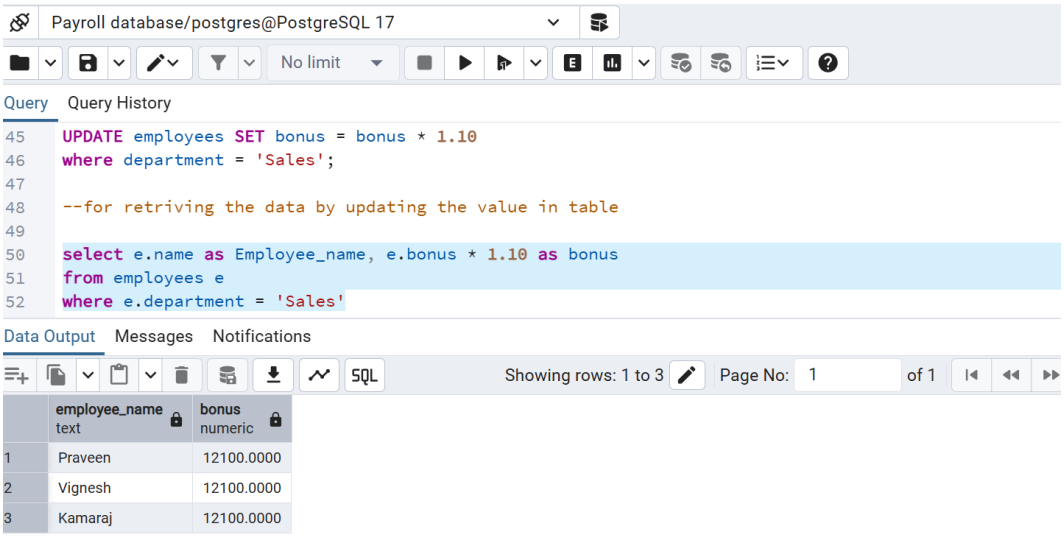
2.3 B) b) Find employees with a total compensation (SALARY + BONUS) greater than $100,000.



2.3 c) Update the bonus for employees in the ‘Sales’ department by 10%.



2.3 c) Update the bonus for employees in the ‘Sales’ department by 10%.
--for retrieving the data by updating the value in table



2.3 d) Calculate the net salary after deducting tax for all employees.

```
54  --Calculate the net salary after deducting tax for all employees.
55
56  select e.name,salary,(e.salary * e.TAX_PERCENTAGE/100)as tax,
57  (e.salary - e.salary * e.TAX_PERCENTAGE/100) as net_salary
58  from employees e
59  order by net_salary desc;
```

Data Output | Messages | Notifications

Showing rows: 1 to 10 | Page No: 1 of 1

	name text	salary numeric	tax numeric	net_salary numeric
1	Lokesh	55000	3300.00	51700.00
2	Sekar	51000	3060.00	47940.00
3	Kamaraj	49000	2940.00	46060.00
4	Mukesh	46000	2760.00	43240.00
5	Vignesh	45000	2700.00	42300.00
6	Shankar	45000	2700.00	42300.00

Total rows: 10 | Query complete 00:00:00.143 | CR

2.3 e) Retrieve the average, minimum, and maximum salary per department.

Query | Query History

```
61  -- Retrieve the average, minimum, and maximum salary per department
62
63  select department,avg(salary)as average_Salary
64  ,max(salary) as maximum_salary
65  ,min(salary) as minimum_Salary
66  from employees e
67  group by department;
```

Data Output | Messages | Notifications

Showing rows: 1 to 6 | Page No:

	department text	average_s numeric	maximum_salary numeric	minimum_salary numeric
1	R & D	44000.00	45000	43000
2	Design	51000.00	51000	51000
3	Quality	55000.00	55000	55000
4	Manufacturing	42500.00	45000	40000
5	Sales	44666.66	49000	40000
6	Production	46000.00	46000	46000

Total rows: 6 | Query complete 00:00:00.234

2.4 Advanced Queries:

a) Retrieve employees who joined in the last 6 months.

```
Query  Query History
69  --a) Retrieve employees who joined in the last 6 months.
70
71  SELECT *
72  FROM employees
73  WHERE joining_date >= (CURRENT_DATE - INTERVAL '6 month')
```

Data Output | Messages | Notifications

Showing rows: 1 to 9 | Page No: 1 of 1

	employee_id [PK] integer	name text	department text	email text	phone_no numeric	joining_date date	salary numeric	bonus numeric	tax_percentage numeric
1	211	Shankar	Manufacturing	Shankar@gmail.com	9176221122	2025-04-25	45000	10000	6
2	222	Mukesh	Production	Mukesh@gmail.com	9176220413	2025-05-26	46000	10000	6
3	244	Shrinath	Manufacturing	Shrinath@gmail.com	9176110415	2025-04-21	40000	10000	6
4	266	Vimalrka	R & D	Vimalrka@gmail.com	9135674171	2025-07-28	45000	10000	6
5	288	Sekar	Design	Sekar@gmail.com	9176231418	2025-03-18	51000	10000	6
6	311	Joshua	R & D	Joshua@gmail.com	9176220498	2025-05-30	43000	10000	6
7	233	Praveen	Sales	Praveen@gmail.com	9176220474	2025-07-27	40000	11000.00	6
8	255	Vignesh	Sales	Vignesh@gmail.com	9176239116	2025-04-22	45000	11000.00	6

Total rows: 9 | Query complete 00:00:00.354 | CRLF | Ln 73, Col 58

2.4 b) Group employees by department and count how many employees each has.

```
Query  Query History
74
75  --Group employees by department and count how many employees each has.
76
77  select department,count(e.name) as Count_of_Employees
78  FROM employees e
79  group by department
```

Data Output | Messages | Notifications

Showing rows: 1 to 6 | Page No: 1

	department text	count_of_employees bigint
1	R & D	2
2	Design	1
3	Quality	1
4	Manufacturing	2
5	Sales	3
6	Production	1

2.4 c) Find the department with the highest average salary.

```sql
--Find the department with the highest average salary.

select department, avg(salary) As average_salary
FROM employees e
group by department
order by average_salary desc
limit 1;
```

Data Output | Messages | Notifications

Showing rows: 1 to 1 | Page

	department text	average_salary numeric
1	Quality	55000.0000000000

2.4 D) Identify employees who have the same salary as at least one other employee.

```sql
--Identify employees who have the same salary as at least one other employee
select e.name,e.employee_id,e.salary
FROM employees e
where salary in(
select salary
from employees e
group by salary
having count(salary) >1 )
order by salary desc;
```

Data Output | Messages | Notifications

Showing rows: 1 to 5 | Page No: 1

	name text	employee_id [PK] integer	salary numeric
1	Shankar	211	45000
2	Vimalr...	266	45000
3	Vignesh	255	45000
4	Shrinath	244	40000
5	Praveen	233	40000