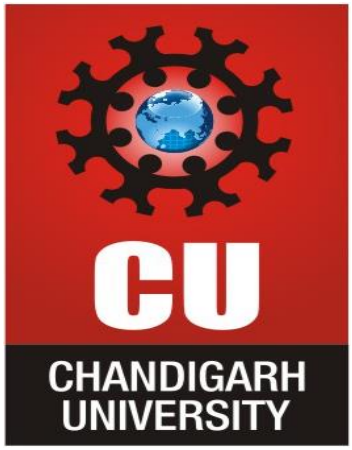
```sql
CREATE TABLE LIBRARY_VISITORS(
USER_ID INT PRIMARY KEY,
USER_NAME VARCHAR(40) NOT NULL,
AGE INT CHECK(AGE>=17) NOT NULL,
EMAIL VARCHAR(40) NOT NULL UNIQUE
)

INSERT INTO LIBRARY_VISITORS(USER_ID,USER_NAME,AGE,EMAIL)
VALUES(501,'SIMRAN',19,'SIMRAN@GMAIL.COM')

select * from library_visitors

CREATE TABLE BOOK_ISSUE(
```

Data Output | Messages | Notifications

Showing rows: 1 to 1

	user_id [PK] integer	user_name character varying (40)	age integer	email character varying (20)
1	501	SIMRAN	19	SIMRAN@GMAIL.COM



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Lab Experiment 2

AIM

To understand and implement SQL **SELECT** queries using various clauses such as `WHERE`, **ORDER BY**, **GROUP BY**, and **HAVING** to retrieve and manipulate data efficiently from relational database tables.

Objective of the Session

- To practice writing SQL **SELECT** statements.
- To apply filtering conditions using the **WHERE** clause.
- To sort query results using the **ORDER BY** clause.
- To group records using the **GROUP BY** clause.
- To filter grouped data using the **HAVING** clause.
- To analyze data using aggregate functions like **COUNT()**, **SUM()**, **AVG()**, **MIN()**, and **MAX()**.

Software Requirements

- **Database**:
    - Oracle Database Express Edition (Oracle XE)
    - PostgreSQL Database (PgAdmin)

Experiment Question :

An organization maintains an **EMPLOYEE** table to store details of its employees.
The structure of the table is as follows:

Column Name	Data Type
emp_id	NUMBER
emp_name	VARCHAR
Department	VARCHAR
Salary	NUMBER
joining_date	DATE

Practical/Experiment steps:

1. Display the **department name** and the **average salary** of employees for each department.

2. Consider **only those employees whose salary is greater than 20,000**.

3. Display **only those departments** where the **average salary is greater than 30,000**.

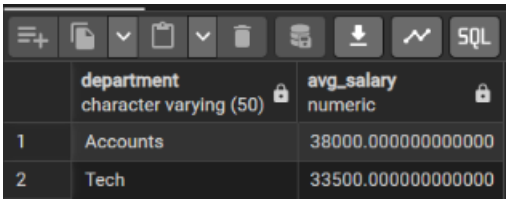
4. Arrange the final output in **descending order of average salary**.

Note: Use the following SQL clauses in your query:

- **WHERE**
- **GROUP BY**
- **HAVING**
- **ORDER BY**

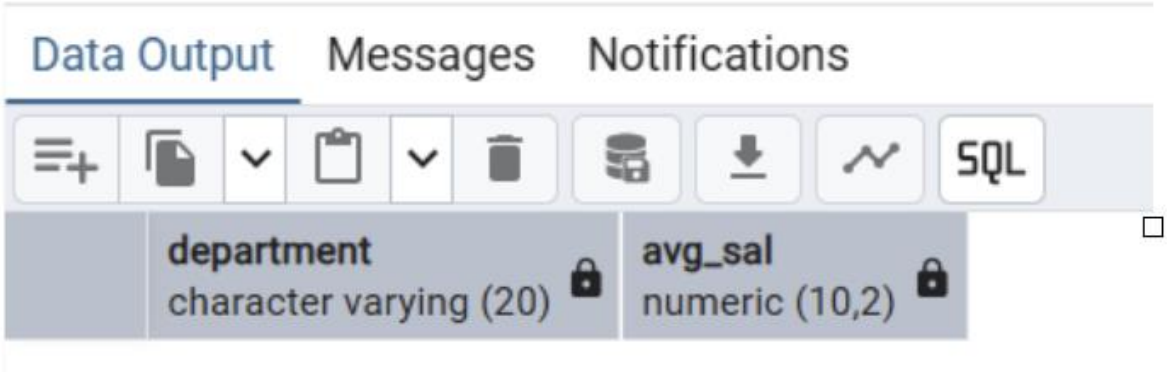
CODE:

OUTPUT:



	department character varying (50)	avg_salary numeric
1	Accounts	38000.000000000000
2	Tech	33500.000000000000

	emp_id integer	emp_name character varying (50)	department character varying (50)	salary integer	joining_date date
1	101	Karan	Sales	27000	2021-07-12
2	102	Riya	Sales	31000	2020-09-25
3	103	Ankit	Tech	45000	2019-04-18
4	104	Meera	Tech	22000	2022-12-03
5	105	Vikas	Accounts	38000	2020-01-30
6	106	Nisha	Accounts	19000	2023-06-10



Learning Outcome

After completing this experiment, students will be able to:

- Filter records using the **`WHERE`** clause.
- Group records using **`GROUP BY.`**
- Apply conditions on grouped data using **`HAVING.`**
- Sort query results using **`ORDER BY.`**