# PROMPT-Give the detailed documentation of insert command. Explain with 2 examples as a fresher

**🔍What is the INSERT Command?**

The INSERT command in SQL is used to **add new rows (records)** to a table in a PostgreSQL database.

The INSERT command is a **Data Manipulation Language (DML)** statement in SQL that is used to **add new rows (records)** to a table in a database.

**🧠 Why is INSERT Important?**

* To add new customers, employees, or products
* To record a new transaction
* To store any new data in a table

**🔧 Basic Syntax of INSERT**

sql

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INSERT INTO table\_name (column1, column2, ...)

VALUES (value1, value2, ...);

**🔑 Key Points:**

* table\_name: The name of the table you're inserting data into.
* (column1, column2, ...): The columns you want to provide values for.
* VALUES (...): The actual values that will be inserted.

✅ Values must match the data types of the columns and must be in the **same order**.

**📌 Optional Syntax (Insert into All Columns in Order)**

If you're inserting values for **all columns in the same order as they were defined**, you can skip the column list:

sql

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INSERT INTO table\_name

VALUES (value1, value2, ...);

**🎯 Data Type Rules**

| **Data Type** | **Example Value** | **Notes** |
| --- | --- | --- |
| VARCHAR / TEXT | 'John Doe' | Always use single quotes for text |
| DATE | '1990-01-01' | Use single quotes and format YYYY-MM-DD |
| DECIMAL or NUMERIC | 2500.00 | No quotes needed |
| BOOLEAN | TRUE / FALSE | No quotes needed |

**✅ Example 1: Insert a Customer into customers Table**

Let's say you have this table:

sql

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CREATE TABLE customers (

customer\_id VARCHAR(10) PRIMARY KEY,

full\_name VARCHAR(100),

gender VARCHAR(10),

date\_of\_birth DATE,

contact VARCHAR(15),

account\_type VARCHAR(20),

balance DECIMAL(10,2),

bank\_id VARCHAR(10)

);

Now insert a new customer:

sql

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INSERT INTO customers (

customer\_id, full\_name, gender, date\_of\_birth, contact, account\_type, balance, bank\_id

)

VALUES (

'C001', 'Ravi Sharma', 'Male', '1990-04-15', '9876543210', 'Savings', 2500.00, 'BK001'

);

**🔍 What This Does:**

* Adds a new row to the customers table.
* Fills in each column with the provided value.

**✅ Example 2: Insert a Transaction into transactions Table**

Assume you also have this table:

sql

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CREATE TABLE transactions (

transaction\_id SERIAL PRIMARY KEY,

customer\_id VARCHAR(10),

transaction\_date DATE,

amount DECIMAL(10,2),

transaction\_type VARCHAR(20),

description TEXT

);

Insert a transaction:

sql

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INSERT INTO transactions (

customer\_id, transaction\_date, amount, transaction\_type, description

)

VALUES (

'C001', '2025-08-07', 1000.00, 'Deposit', 'Monthly salary deposit'

);

**🔍 Explanation:**

* transaction\_id is auto-generated because of SERIAL.
* Other values are inserted based on the provided data.

**🧪 Inserting Multiple Rows at Once**

sql

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INSERT INTO customers (

customer\_id, full\_name, gender, date\_of\_birth, contact, account\_type, balance, bank\_id

)

VALUES

('C002', 'Neha Verma', 'Female', '1992-06-12', '9123456789', 'Checking', 1800.00, 'BK002'),

('C003', 'Amit Roy', 'Male', '1985-11-25', '9876500000', 'Savings', 3000.00, 'BK001');

✅ This inserts two rows at once — efficient for adding bulk data.

**⚠️ Common Mistakes and How to Avoid Them**

| **Mistake** | **Issue** | **Fix** |
| --- | --- | --- |
| Missing quotes around text | SQL will throw an error | Use 'text' for string values |
| Wrong data type | Inserting text into a number column | Check table structure first |
| Value count mismatch | Number of columns ≠ number of values | Always match columns and values |
| Forgetting semicolon | Query may not run | End every statement with ; |

**🧾 Best Practices**

* Use column names for clarity and safety
* Always verify data types before inserting
* Use SELECT \* FROM table\_name; to check data after insert
* Wrap insert operations in a transaction if inserting multiple related rows

**📌 Summary Table**

| **Concept** | **Description** |
| --- | --- |
| INSERT INTO | Adds new data into a table |
| VALUES | Specifies the data to insert |
| Column order | Must match value order |
| Multiple rows | Can be inserted at once |
| Use quotes | Around strings and dates |