

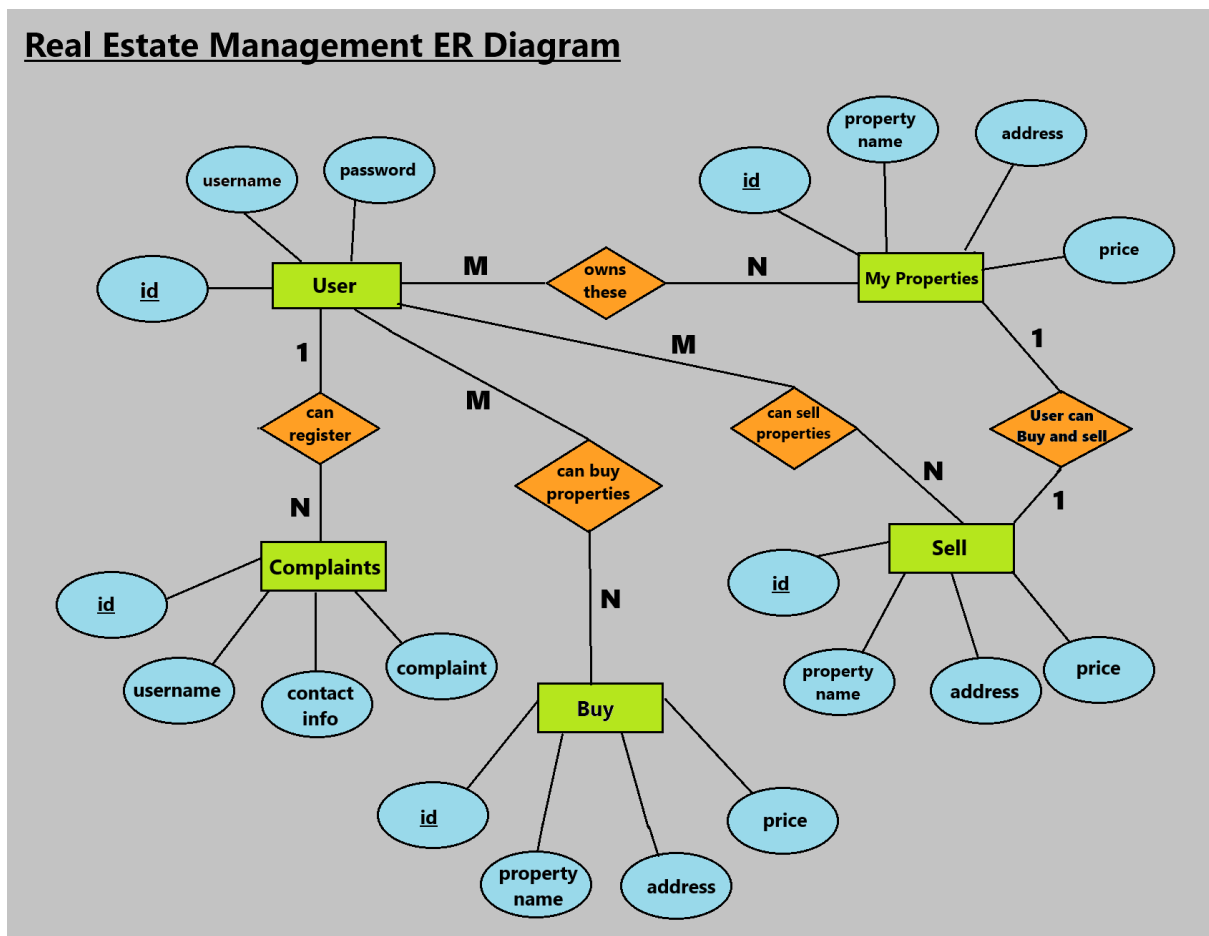
DBMS Project

Title: Real Estate Management Website

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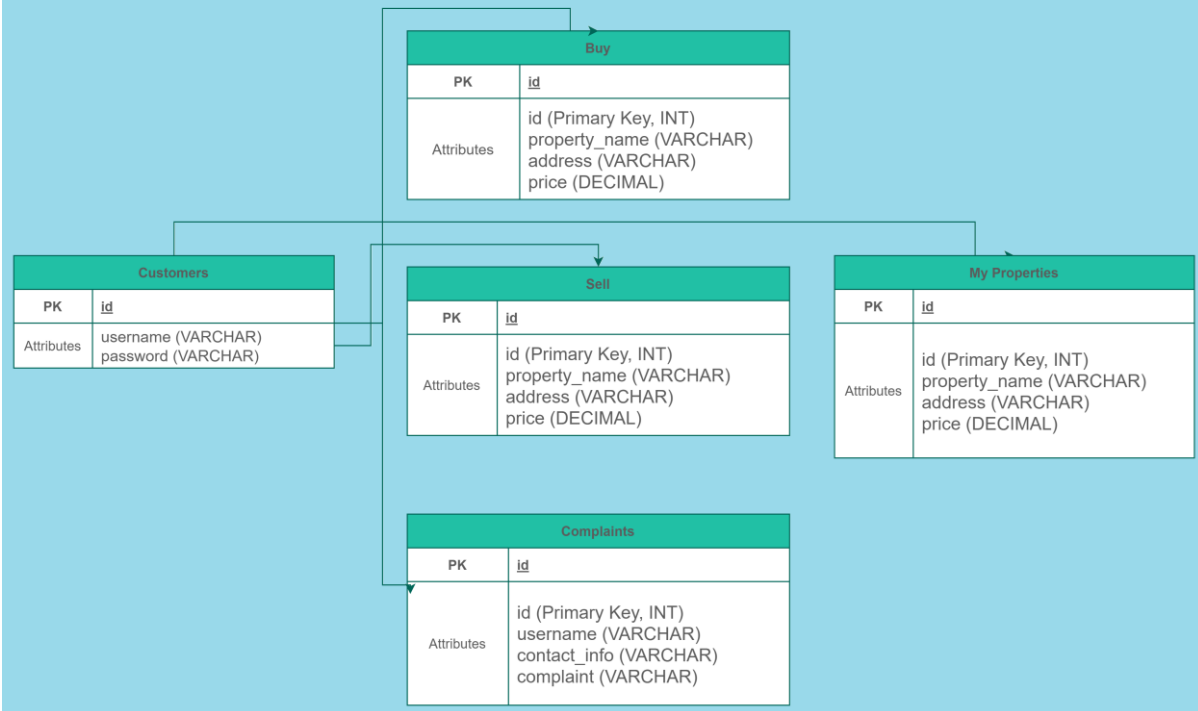
ER Diagram

Real Estate Management ER Diagram



Relational Schema

RELATION SCHEMA For Real Estate Management Project



SQL Queries

Login

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Username

Password

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Register

LANDMARK ESTATESDeploy

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Register New Account

Enter a new username

Enter a new password

Register

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Procedure:

CREATE TABLE users (

```
id INT AUTO_INCREMENT PRIMARY KEY,  
  
username VARCHAR(255) NOT NULL UNIQUE,  
  
password VARCHAR(255) NOT NULL  
  
);
```

Explanation

- **Primary Key:** The `id` column acts as the primary key, ensuring each user has a unique identifier.
- **Uniqueness:** The `username` column is enforced to be unique to prevent duplicate entries.
- **Security:** The `password` column is used to store user passwords, though in practice, passwords should be hashed before being stored for security.

Properties Available for Buy

Available Properties

	Property Name	Address	Price
0	Prestige Lakeside Habitat	Whitefield, Bengaluru	₹1,20,00,000
1	Brigade Exotica	Old Madras Road, Bengaluru	₹85,00,000
2	Godrej Woodland	Sarjapur, Bengaluru	₹78,00,000
3	Prestige Golfshire	Devanahalli, Bengaluru	₹1,10,00,000
4	Brigade El Dorado	Bagalur, Bengaluru	₹92,00,000
5	RMZ Galleria	Yelahanka, Bengaluru	₹65,00,000
6	Mantri Serenity	Kanakapura Road, Bengaluru	₹1,25,00,000
7	Nitesh Park Avenue	Sankey Road, Bengaluru	₹89,00,000
8	Shobha Forest View	Kanakapura Road, Bengaluru	₹80,00,000
9	Rohan Upavan	Hennur, Bengaluru	₹94,00,000
10	Adarsh Palm Retreat	Bellandur, Bengaluru	₹1,30,00,000
11	Purva Atmosphere	Thanisandra Main Road, Bengaluru	₹71,00,000
12	Salarpuria Sattva Divinity	Mysore Road, Bengaluru	₹99,00,000
13	Mahaveer Ranches	Sarjapur Road, Bengaluru	₹1,05,00,000
14	Total Environment Pursuit	Whitefield, Bengaluru	₹1,10,00,000
15	Kolte Patil Mirabilis	Horamavu, Bengaluru	₹1,20,00,000
16	mars meadows	#34,4th main,BEML Layout , RR Nagar ,Bengaluru-560098	1500000
17	mars meadows	#35,4th main,BEML Layout , RR Nagar ,Bengaluru-560098	500000

Procedure:

```
CREATE TABLE buy (
```

```
id INT AUTO_INCREMENT PRIMARY KEY,  
  
property_name VARCHAR(255) NOT NULL,
```

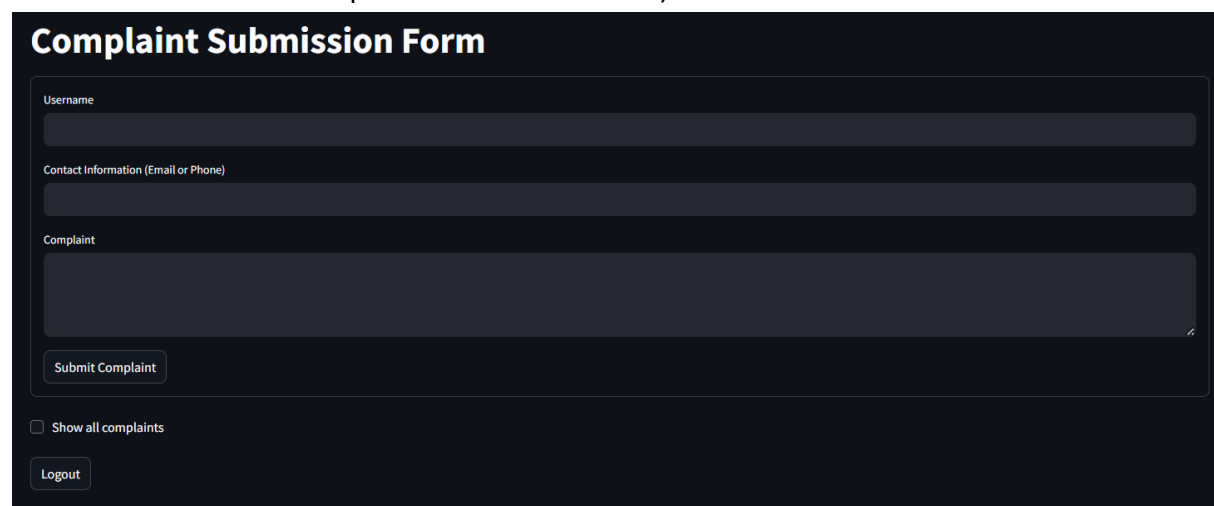
address VARCHAR(255) NOT NULL,

price VARCHAR(255) NOT NULL

);

Explanation

- **Table Name:**
- buy: Stores details about properties.
- **Columns:**
- id:
 - Data type: INT.
 - AUTO_INCREMENT: Automatically generates a unique ID for each property.
 - PRIMARY KEY: Ensures each record has a unique identifier.
- property_name:
 - Data type: VARCHAR(255).
 - NOT NULL: Requires a name for the property.
- address:
 - Data type: VARCHAR(255).
 - NOT NULL: Requires the address of the property.
- price:
 - Data type: VARCHAR(255).
 - NOT NULL: Requires a price for the property (stored as text; should be numeric in practice for calculations).



The image shows a dark-themed web form titled "Complaint Submission Form". It contains the following elements:

- A "Username" label above a single-line text input field.
- A "Contact Information (Email or Phone)" label above a single-line text input field.
- A "Complaint" label above a multi-line text area.
- A "Submit Complaint" button located below the complaint text area.
- A checkbox labeled "Show all complaints" below the submit button.
- A "Logout" button at the bottom left of the form.

Procedure:

CREATE TABLE complaints (

```
id INT PRIMARY KEY AUTO_INCREMENT,  
  
username VARCHAR(255) NOT NULL,  
  
contact_info VARCHAR(255) NOT NULL,  
  
complaint TEXT NOT NULL  
  
);
```

Explanation

1. Table Name:

- a. **complaints:** Stores complaint details.

2. Columns:

- a. **id:**
 - i. Data type: INT.
 - ii. PRIMARY KEY: Uniquely identifies each complaint.
 - iii. AUTO_INCREMENT: Automatically generates a unique ID for each record.
- b. **username:**
 - i. Data type: VARCHAR(255).
 - ii. NOT NULL: Requires the user's name.
- c. **contact_info:**
 - i. Data type: VARCHAR(255).
 - ii. NOT NULL: Requires the user's contact details.
- d. **complaint:**
 - i. Data type: TEXT.
 - ii. NOT NULL: Requires the user's complaint message.

Purpose:

This table is designed for systems to store and manage user complaints, including their name, contact details, and the complaint description.

Sell Property

Property Name

Address

Price (INR)

1

Submit

Procedure:

CREATE TABLE sell (

id INT AUTO_INCREMENT PRIMARY KEY,

property_name VARCHAR(255),

address TEXT,

price INT

);

Explanation

1. **Table Name:**

- a. `sell`: Stores details of properties being sold.

2. **Columns:**

a. `id`:

- i. Data type: INT.
- ii. PRIMARY KEY: Uniquely identifies each property.
- iii. AUTO_INCREMENT: Automatically generates a unique ID for each record.

b. `property_name`:

- i. Data type: VARCHAR(255).
- ii. Stores the name of the property (optional since no NOT NULL).

c. `address`:

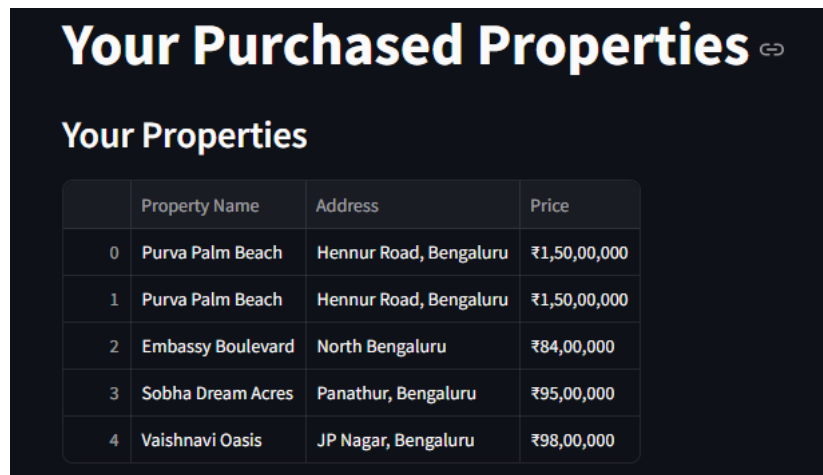
- i. Data type: TEXT.
- ii. Stores the property's address (longer text supported).

d. `price`:

- i. Data type: INT.
- ii. Stores the price of the property in numeric format.

Purpose:

This table is part of a real estate system, storing details about properties available for sale, including their name, address, and price.



The screenshot shows a dark-themed web interface. At the top, it says 'Your Purchased Properties' with a small icon. Below that, it says 'Your Properties'. A table with 5 rows and 4 columns is displayed. The columns are 'id', 'Property Name', 'Address', and 'Price'.

	Property Name	Address	Price
0	Purva Palm Beach	Hennur Road, Bengaluru	₹1,50,00,000
1	Purva Palm Beach	Hennur Road, Bengaluru	₹1,50,00,000
2	Embassy Boulevard	North Bengaluru	₹84,00,000
3	Sobha Dream Acres	Panathur, Bengaluru	₹95,00,000
4	Vaishnavi Oasis	JP Nagar, Bengaluru	₹98,00,000

Procedure:

```
CREATE TABLE my_properties (  
  
    id INT NOT NULL AUTO_INCREMENT,  
  
    property_name VARCHAR(255) NOT NULL,  
  
    address VARCHAR(255) NOT NULL,  
  
    price DECIMAL(10, 2) NOT NULL,  
  
    PRIMARY KEY (id)  
  
);
```

Explanation

1. **Table Name:**
 - a. `my_properties`: Stores information about the user's properties.
2. **Columns:**
 - a. `id`:
 - i. Data type: INT.
 - ii. NOT NULL: The column cannot be empty.
 - iii. AUTO_INCREMENT: Automatically generates a unique ID for each property.

- iv. PRIMARY KEY: Ensures each record has a unique identifier.
- b. property_name:
 - i. Data type: VARCHAR(255).
 - ii. NOT NULL: Requires the name of the property.
- c. address:
 - i. Data type: VARCHAR(255).
 - ii. NOT NULL: Requires the address of the property.
- d. price:
 - i. Data type: DECIMAL(10, 2).
 - ii. Stores the property's price, supporting up to 10 digits with 2 decimal places.
 - iii. NOT NULL: Requires a price value.

Purpose:

This table is designed for systems to manage a user's property listings, including details like the property's name, address, and price with precise formatting.

Trigger Commands

```
DELIMITER $$
```

```
CREATE TRIGGER after_buying
```

```
AFTER INSERT ON my_properties (property_name, address, price, property_id)
```

```
FOR EACH ROW
```

```
BEGIN
```

```
INSERT INTO transactions (id, transaction_amount, transaction_date)
```

```
VALUES (NEW.id, NEW.sale_price, NEW.sale_date);
```

```
END$$
```

-- Create Triggers for Rent Requirements Table (AFTER UPDATE)

CREATE TRIGGER after_selling

AFTER UPDATE ON buy

FOR EACH ROW

BEGIN

INSERT INTO transactions (sale_id, transaction_amount, transaction_date)

VALUES (NULL, NEW.rent_amount, NEW.due_date);

END\$\$

DELIMITER;

Explanation

1. **Setting the Delimiter:**

- a. DELIMITER \$\$: Changes the delimiter to \$\$ to allow defining multiple statements in a trigger.

2. **Trigger 1: after_buying**

- a. **Event:** Triggered **after an INSERT** operation on the my_properties table.
- b. **Action:** Automatically inserts details into the transactions table.
- c. **Columns:** Values are taken from the new row (NEW) in my_properties:
 - i. NEW.id → Used as the transaction ID.
 - ii. NEW.sale_price and NEW.sale_date → Referenced for the transaction amount and date.

3. **Trigger 2: after_selling**

- a. **Event:** Triggered **after an UPDATE** operation on the buy table.
- b. **Action:** Automatically inserts details into the transactions table.
- c. **Columns:** Values from the updated row (NEW) in buy:
 - i. NULL → Used as the sale ID (no explicit mapping here).
 - ii. NEW.rent_amount and NEW.due_date → Referenced for transaction amount and due date.

4. **Ending the Statement:**

- a. DELIMITER ; resets the delimiter to its default.

Purpose:

- These triggers automate logging of transactions in the transactions table after property actions (buying or updating for rent) in the respective tables.

DDL Commands

-- Drop existing tables if they exist

DROP TABLE IF EXISTS sell;

DROP TABLE IF EXISTS users;

DROP TABLE IF EXISTS buy;

DROP TABLE IF EXISTS properties;

DROP TABLE IF EXISTS sales;

DROP TABLE IF EXISTS transactions;

DROP TABLE IF EXISTS security;

DROP TABLE IF EXISTS rent_requirements;

DROP TABLE IF EXISTS my_properties;

Explanation

- **Purpose:**
- Before creating new tables, it's common to drop existing ones with the same names to avoid conflicts or duplication.
- Using DROP TABLE IF EXISTS ensures that no error is thrown if the table doesn't already exist.
- **Tables Dropped:**
- **sell:** Likely stores properties for sale.
- **users:** Likely contains user information.
- **buy:** Likely stores properties for purchase.
- **properties:** General table for property details.
- **sales:** Tracks sales information.
- **transactions:** Stores transaction records.

- **security**: Could store security or authentication details.
- **rent_requirements**: Tracks details related to rental properties.
- **my_properties**: Stores a user's specific properties.

-- Adding Primary and Unique Keys

ALTER TABLE users

ADD PRIMARY KEY (id),

ADD UNIQUE KEY email (email);

ALTER TABLE properties

ADD PRIMARY KEY (id),

ADD UNIQUE KEY property_code (property_code);

ALTER TABLE sell

ADD PRIMARY KEY (id);

ALTER TABLE complaint

ADD PRIMARY KEY (id);

-- Auto-Increment Settings

ALTER TABLE users

MODIFY id INT(11) NOT NULL AUTO_INCREMENT, AUTO_INCREMENT=3;

ALTER TABLE my_properties

MODIFY id INT(11) NOT NULL AUTO_INCREMENT, AUTO_INCREMENT=3;

ALTER TABLE sell

MODIFY id INT(11) NOT NULL AUTO_INCREMENT, AUTO_INCREMENT=2;

ALTER TABLE buy

MODIFY id INT(11) NOT NULL AUTO_INCREMENT, AUTO_INCREMENT=2;

ALTER TABLE my_properties

MODIFY COLUMN id INT AUTO_INCREMENT;

COMMIT;

Explanation

- **Primary Keys and Unique Keys:**
- **users:**
 - Adds id as the **Primary Key** (ensures unique identification for each record).
 - Adds a **Unique Key** for the email column to prevent duplicate email entries.
- **properties:**
 - Adds id as the **Primary Key**.
 - Adds a **Unique Key** for property_code to ensure each property has a unique identifier.
- **sell and complaint:**
 - Adds id as the **Primary Key**.
- **Auto-Increment Settings:**
- Ensures the id column in various tables automatically generates sequential unique values:
 - **users:** Starts at 3 with an INT(11) data type.
 - **my_properties:** Starts at 3 with an INT(11) data type.
 - **sell:** Starts at 2.
 - **buy:** Starts at 2.
- MODIFY COLUMN id INT AUTO_INCREMENT ensures id in my_properties is auto-incremented.
- **Final Step:**

- COMMIT: Confirms and saves all the changes made by the script to the database.

Insert Command

-- Insert initial user credentials

```
INSERT INTO users (username, password) VALUES
```

```
('admin', '123'),
```

```
('student1', 'pass1'),
```

```
('student2', 'pass2');
```

Explanation

- **Table:**
- **users:** The target table where user credentials are being inserted.
- **Columns:**
- **username:** Represents the user's login name.
- **password:** Represents the user's password (stored as plaintext here, which is **not secure** in practice).
- **Inserted Data:**
- ('admin' , '123'): Adds an admin user with username admin and password 123.
- ('student1' , 'pass1'): Adds a user student1 with password pass1.
- ('student2' , 'pass2'): Adds a user student2 with password pass2.

-- Insert sample data for buy table

```
INSERT INTO buy (property_name, address, price)
```

```
VALUES
```

```
("Prestige Lakeside Habitat", "Whitefield, Bengaluru", "₹1,20,00,000"),
```

```
("Brigade Exotica", "Old Madras Road, Bengaluru", "₹85,00,000"),
```

("Sobha Dream Acres", "Panathur, Bengaluru", "₹95,00,000"),
("Godrej Woodland", "Sarjapur, Bengaluru", "₹78,00,000"),
("Purva Palm Beach", "Hennur Road, Bengaluru", "₹1,50,00,000"),
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("Mantri Serenity", "Kanakapura Road, Bengaluru", "₹1,25,00,000"),
("Nitesh Park Avenue", "Sankey Road, Bengaluru", "₹89,00,000"),
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("Rohan Upavan", "Hennur, Bengaluru", "₹94,00,000"),
("Adarsh Palm Retreat", "Bellandur, Bengaluru", "₹1,30,00,000"),
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("Embassy Boulevard", "North Bengaluru", "₹84,00,000"),
("Salarpuria Sattva Divinity", "Mysore Road, Bengaluru", "₹99,00,000"),
("Mahaveer Ranches", "Sarjapur Road, Bengaluru", "₹1,05,00,000"),
("Total Environment Pursuit", "Whitefield, Bengaluru", "₹1,10,00,000"),
("Kolte Patil Mirabilis", "Horamavu, Bengaluru", "₹1,20,00,000");

Explanation

- **Table:**
- **buy:** The table receiving the data.
- **Columns:**
- **property_name:** The name of the property.
- **address:** The property's location.
- **price:** The cost of the property.
- **Inserted Data:**
- Contains a list of **20 properties** with names, addresses, and prices (formatted as text with currency symbols like ₹).

CHATBOT

Real Estate Assistant Bot



Can u suggest some good locations to buy properties in bengaluru ?



Suggesting the "best" locations to buy property in Bengaluru depends heavily on your budget, lifestyle preferences, and priorities (e.g., proximity to work, schools, amenities). Bengaluru's real estate market is diverse, with prices and desirability varying greatly across different areas. To give you useful suggestions, I need more information. However, I can offer some general categories and examples:

For those seeking upscale, luxurious properties:

- **Indiranagar:** Established, upscale residential area with excellent amenities, restaurants, and shopping. Expect high prices.
- **Koramangala:** Similar to Indiranagar, known for its vibrant atmosphere and high-end properties. Prices are also very high.
- **Malleswaram:** A more traditional, yet still affluent area, with a mix of old and new properties. Prices can be high depending on the location within Malleshwaram.
- **Richmond Town:** A very established and upscale area, known for its large bungalows and quiet atmosphere. Expect to pay a premium.

For those seeking a balance of affordability and convenience:

- **Whitefield:** A rapidly developing area with a mix of residential and commercial properties. Offers a range of price points, but can be congested during peak hours.
- **Electronic City:** A major IT hub, with numerous residential options catering to the working population. Prices are generally more affordable than the central areas, but commute times can be long.
- **Hebbal:** A relatively well-connected area with good infrastructure and a mix of residential projects. Prices are moderately high compared to outer areas.
- **Thanisandra:** A rapidly developing area with many new residential projects, offering a range of options at different price points.

For those seeking more affordable options:

Ask about real estate properties



Chat History

User: Can u suggest some good locations to buy properties in bengaluru ?

Assistant: Suggesting the "best" locations to buy property in Bengaluru depends heavily on your budget, lifestyle preferences, and priorities (e.g., proximity to work, schools, amenities). Bengaluru's real estate market is diverse, with prices and desirability varying greatly across different areas. To give you useful suggestions, I need more information. However, I can offer some general categories and examples:

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For those seeking more affordable options:

- **Areas further from the city center:** Areas on the outskirts of Bengaluru often offer more affordable

Ask about real estate properties



Real Estate Assistant Bot



can u tell the places where the properties cost will be less and were it will be costlier in bengaluru ?



Generally speaking, property costs in Bengaluru are significantly influenced by proximity to the city center and major employment hubs. It's a gradient, not a stark division, but here's a simplified breakdown:

Less Expensive Areas (Generally):

- **Areas on the outskirts:** These areas are constantly expanding, but generally offer lower prices per square foot than central locations. Examples include areas in North Bangalore (beyond Yelahanka), Devanahalli (further out), and some parts of South Bangalore that are further from the main IT corridors. However, remember that infrastructure and amenities may be less developed in these areas. Commute times will also be significantly longer.
- **Developing suburbs:** Suburbs that are still undergoing significant development often have lower property prices compared to established areas. Keep in mind that these areas might experience construction and infrastructure challenges. Specific areas change rapidly, so research is crucial.
- **Areas with less developed infrastructure:** Areas lacking well-developed roads, public transport, or amenities typically see lower property values.

More Expensive Areas (Generally):

- **Central Bengaluru:** Areas like Indiranagar, Koramangala, Malleshwaram, and Richmond Town are traditionally expensive due to their established infrastructure, proximity to employment hubs, and high demand. Expect to pay a premium for properties in these areas.
- **Major IT Hubs:** Areas like Whitefield, Electronic City, and areas around Outer Ring Road (ORR) tend to have higher property prices due to the high concentration of IT companies and resulting high demand from professionals. Even within these areas, prices vary significantly based on proximity to major employment centers and the quality of the development.
- **Areas with excellent amenities and infrastructure:** Well-planned layouts, good schools, hospitals, shopping malls, and parks usually command higher property prices.

Ask about real estate properties



OBSERVATION -

- **User Query Understanding:**
 - The chatbot understands user queries related to property purchase in Bengaluru.
 - It responds with detailed suggestions tailored to the user's question.
- **Categorized Recommendations:**
 - Properties are categorized based on user preferences like luxury, affordability, or cost-effective areas.
- **Detailed Area Insights:**
 - Upscale areas (e.g., Indiranagar, Koramangala) are highlighted with their features and expected costs.
 - Developing or affordable areas (e.g., Whitefield, Thanisandra) are explained with pros and cons.
- **Cost Analysis:**
 - The bot provides a comparison between less expensive and more expensive areas, emphasizing factors like proximity to the city center and amenities.

- **Dynamic Context:**
- The chatbot dynamically adjusts its responses based on user inputs, delivering relevant and specific property insights.
- **Ease of Use:**
- The chatbot is interactive and user-friendly, answering complex queries in a simplified format.
- Chat History : The chatbot maintains the previous history of the user while answering to the prompts given by the user.