Real Estate Listings and Analytics Project

Objective:

To design and analyze a real-world relational database for real estate listings, tracking property sales, agents, buyers, and generating meaningful price and trend insights using SQL.

Tools Used:

- **MySQL Workbench** (Database Design & Querying)
- **MySQL Server 8.0**
- **CSV Export** for reports
- **VS Code / GitHub** for project versioning & documentation

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🗂 Database Schema

Tables:

- **agents** – Information about real estate agents
- **buyers** – Property buyers with region preferences
- **properties** – Listed properties with details
- **transactions** – Completed sales data

Views:

- **high_demand_areas** – Regions with more than one listing

Table Relationships:

- `agents.agent_id` → `properties.agent_id`
- `buyers.buyer_id` → `transactions.buyer_id`
- `properties.property_id` → `transactions.property_id`

(optional)

Dataset Sample

agents:

agent_id	name	email	region
1	Ankit Agent	ankit.forwork@gmail.com	Western

properties:

title	city	price	region
2BHK Flat	Mumbai	₹85,00,000	Western
3BHK Villa	Pune	₹1.25 Cr	Central

Reports Generated

1. Average Price by Region

Query:

```
sql
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SELECT region, ROUND(AVG(price), 2) AS avg_price FROM properties GROUP BY
region;
```

Saved as: `reports/avg_price_by_region.csv`

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2. High Demand Areas

View:

```
sql
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CREATE OR REPLACE VIEW high_demand_areas AS
SELECT region, COUNT(*) AS listings
FROM properties
GROUP BY region
HAVING listings > 1;
```

Saved as: `reports/high_demand_areas.csv`

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3. Monthly Price Trends

Query:

```
sql
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SELECT
    region,
    DATE_FORMAT(listed_date, '%Y-%m') AS month,
    ROUND(AVG(price), 2) AS avg_monthly_price,
    ROUND(AVG(price) - LAG(AVG(price)) OVER (PARTITION BY region ORDER BY
DATE_FORMAT(listed_date, '%Y-%m')), 2) AS price_change
FROM properties
GROUP BY region, month
ORDER BY region, month;
```

Saved as: `reports/price_trends.csv`

☑ Key Learning Outcomes:

- Designing normalized relational schemas
- Writing complex SQL queries (including window functions)
- Generating business insights using real estate data
- Presenting data in `.csv` format for analysis and sharing

GithubLink :https://github.com/Ankit01mishra01/SQL-internship_tasks/tree/a1d2fb266c9a647a383da1c4e2f017a46a0dc42c/Final%20Project