**Residential Properties SQL Analysis**

This project uses SQL to analyze residential property data — including sale prices, building characteristics, and location-based trends — to uncover insights about different property types such as Lake Front and Canal Front homes.

**Objective**

**The goal of this analysis is to:**

* Compare sales and property characteristics across housing types
* Analyze trends by location, year, and property type
* Understand how factors like square footage, bedrooms, and location affect sales prices
* Demonstrate SQL proficiency in cleaning, joining, and summarizing relational data

**Tools & Technologies**

* SQL
* CSV data files
* Excel for quick validation

**Output File Descriptions**

1. **property\_type\_sales\_summary.csv**

Top 10 property types by number of sales, grouped and labeled using codes.

1. **property\_type\_size\_summary.csv**

Summary of total square footage and air-conditioned area by property type.

1. **lake\_vs\_canal\_bed\_bath\_comparison.csv**

Comparison of bedroom and bathroom averages/mins/maxes for Lake vs Canal Front properties.

1. **property\_age\_summary.csv**

Average, oldest, and newest build dates for Lake and Canal Front properties as of 2023.

1. **property\_price\_summary.csv**

Min, max, and average most recent sale prices by property type.

1. **yearly\_price\_trends\_lake\_vs\_canal.csv**

Price trends between 2013–2018 broken down by year and property type.

1. **price\_summary\_by\_year\_city\_zip.csv**

Sale price trends over time by city and zip code for Lake and Canal Front properties.

1. **lake\_vs\_canal\_popularity\_by\_city.csv**

Sales volume comparison for Lake vs Canal Front properties across years and cities.

**How to Recreate**

1. Open ResidentialCode.sql in VSCode (or any SQLite-compatible environment)
2. Ensure all CSVs are stored in the /data/ folder and match file paths
3. Run each section (Parts B–K) to:
4. Create tables
5. Import data
6. Execute summary queries
7. Export CSVs using .mode csv + .output commands

**Key Takeaways**

* Lake Front properties had slightly higher variability in pricing across regions.
* Canal Front homes tend to be newer but with fewer sales in premium zip codes.
* Zip code and city play a significant role in determining high-value sale clusters.

**Potential Future Work**

Visualize trends using Python (Pandas + Matplotlib) or Tableau

Predict sale prices with regression using property characteristics

Build an interactive dashboard (Streamlit or Power BI)