Visualizing Housing Market Trends: An Analysis of Sale Prices and Features using Tableau

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PROJECT NAME	Visualizing Housing Market Trends: An Analysis of Sale prices and Features Using Tableau
MAXIMUM MARKS	4 MARKS

3.2 <u>Solution Requirement</u>

The **Solution Requirements** section explains what the system must do and what is needed to successfully build and use the dashboards.

This section is very important for academic reports and project documentation.

A successful Tableau solution for analysing housing market trends requires aggregating sales price data against property features (size, bedrooms, location) to identify, visualize, and filter key market drivers. Requirements include integrating Tableau with clean data sources, using interactive filters (area, date, size), building dashboards with geographic maps/scatterplots, and enabling actionable insights on price trends.

  Core Solution Requirements:
- **Data Preparation (Input):**

    o **Data Sources:** Housing transaction records, property listings, MLS data.

    o **Data Cleaning:** Handling missing data (e.g., in sq. ft. or price), creating calculated fields for price per square foot using Tableau Prep Builder.

    o **Geographic Data:** Assigning latitude/longitude for mapping, or organizing by city/zip code.

- **Visualization & Analysis (Tableau Desktop/Cloud):**

    o **Trend Analysis:** Line charts or area charts showing median sale prices over time (e.g., monthly/yearly).

    o **Feature Comparison:** Scatter plots to analyse price vs. square footage, or bar charts comparing prices by bedroom/bathroom count.

    o **Geospatial Analysis:** Filled maps or symbol maps to visualize price density and identify high/low-cost neighbourhoods.

- **Interactive Dashboard Design (Output):**

  o **Filtering:** Din amici filters for Location, Price Range, Date of Sale, Property Type, and Features (e.g., swimming pool, parking).

  o **Dashboard Interactivity:** "Action" filters enabling users to click a region on a map to update accompanying charts, as discussed in this YouTube video.

  o **Layout & Usability:** Clean interface with a clear hierarchy, utilizing Tooltips to show detailed data on hover.

- **Technical & Performance Requirements:**

  o **Performance:** Ability to praccess thousands to millions of rows, utilizing Extract (. hyper) files for speed.

  o **Accessibility:** Published to Tableau Public or Tableau Server/Online for stakeholder access.