Project Proposal of CENG 441 – Data Mining

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Information about Dataset

The dataset, titled *Apartment Prices for Azerbaijan Market*, is a rich collection of real estate listings sourced from the popular real estate website Bina.az. It comprises **39,300 rows** and **10 columns**, each containing essential information about properties available for sale across various locations in Azerbaijan. This dataset is an invaluable resource for real estate market analysis, property valuation, and housing market research.

Dataset Details:

- **Number of Rows:** 39,300

- **Number of Columns:** 10

- **Column Descriptions:**

    1. **Price:** Indicates the listed price of the property, offering insights into market trends and pricing variations.

    2. **Location:** Specifies the geographical details of the property, including city, district, and proximity to metro stations, critical for real estate decision-making.

    3. **Rooms:** Represents the number of rooms in the property, helping assess its suitability for buyers or renters.

    4. **Square:** Contains the total area of the property in square meters, a key factor in determining value and usability.

    5. **Floor:** Indicates the floor number where the property is located, especially relevant for apartment listings.

    6. **New Building:** Binary field showing if the property is in a newly constructed building, aiding in identifying modern properties.

    7. **Has Repair:** Binary field denoting whether the property has undergone repairs or renovations, impacting buyer decisions.

8. **Has Bill of Sale:** Binary field indicating if the property has a legal bill of sale, ensuring transaction legitimacy.

9. **Has Mortgage:** Binary field denoting if the property has an existing mortgage, important for buyers considering financing.

Applications of the Dataset:

- **Market Analysis:** Real estate professionals can use this dataset to conduct comprehensive market research, assess pricing dynamics, and identify property preferences.

- **Property Valuation:** Appraisers can estimate property values by analyzing key attributes like location, size, and condition.

- **Housing Market Research:** Academics and policymakers can gain insights into trends, affordability, and factors influencing the housing market.

- **Homebuyers and Renters:** Individuals can search for properties that meet their criteria, such as price, location, and room count.

This dataset not only empowers data-driven decision-making in the real estate sector but also serves as a valuable tool for professionals, researchers, and homebuyers interested in understanding the dynamics of the Azerbaijan housing market.

Dataset Link:
[Kaggle - Apartment Prices for Azerbaijan Market](#)

What is the Importance of this Dataset?

This dataset is crucial for understanding the dynamics of the real estate market in Azerbaijan. It can assist stakeholders in making informed decisions, such as buyers determining reasonable pricing, investors identifying trends, and policymakers analyzing housing affordability. Moreover, the dataset's structured format makes it ideal for machine learning applications, enabling deeper insights into market patterns.

What is Your Goal?

The goal of this project is to develop a classification model that predicts the price category of apartments based on the features provided in the dataset. This model will categorize apartments into distinct pricing tiers such as low, medium, and high, enabling users to better understand market segmentation.

Type of the Project

This project is a Classification task. We aim to classify apartment price categories using supervised learning techniques.