



Apuabi's Note 2020

Nashville Housing Project

This project cover areas like exploratory data analysis, correlation analysis, visualization, and drawing meaningful insights from the data



S.R. Apuabi's Project

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About the Project



Introduction

The "Exploratory Data Analysis on a Housing Dataset" project aims to analyze and derive insights from a comprehensive dataset containing housing-related information. The dataset encompasses a range of attributes, including property values, ownership details, property characteristics, and sale history. By conducting exploratory data analysis (EDA) on this dataset, we aim to uncover meaningful patterns, correlations, and trends that can provide valuable insights into the housing market.

About the Project



Dataset Description

The dataset comprises various columns such as Unique ID, Parcel ID, Land Use, Property Address, Sale Date, Sale Price, Legal Reference, Sold As Vacant, Owner Name, Owner Address, Acreage, Tax District, Land Value, Building Value, Total Value, Year Built, Bedrooms, Full Bath, and Half Bath. These attributes offer a comprehensive view of each property's attributes, sales history, and associated values

[Click here to download the Dataset](#)



Project Goals

Property Value Analysis

Examine property value distribution by land use category for insights and trends



Sales Patterns

Analyze average sale prices for vacant and non-vacant properties, exploring seasonal sale date patterns



Ownership Insights

Identify top property owners based on property count; examine the link between property ownership volume and average value



Property Characteristics

Study the impact of property characteristics like bedrooms and bathrooms on property values.



Geographic Analysis

Visualize property value distribution by tax districts, highlighting / Mapping areas with high values



Year Built Analysis

Explore potential associations between property year built, total value, and detect value outliers



Project Goals

Acreage Impact

Investigate the relationship between property acreage, land value, and building value. Identify instances where small acreage properties have high total values.



Accuracy Assessment

Identify properties where the sum of land and building values significantly deviates from the total value. Evaluate potential assessment accuracy issues

About the Project

Methodology

The project involves utilizing SQL queries to perform data analysis tasks on the housing dataset. SQL queries will be employed to aggregate, group, filter, and visualize data based on the defined case problems. The project will include data visualization techniques to present findings effectively.



Expected Outcome



Expected Outcome

Through this project, we anticipate uncovering insights into property value distribution, sales patterns, ownership trends, and more. These insights can be used by real estate professionals, policymakers, and investors to make informed decisions in the housing market.

Case Problems



You can do it!

1

Exploring Property Values

01

How do the land, building, and total property values vary across different land use categories?

02

Is there any correlation between the acreage of a property and its total value?

03

Which tax district has the highest average total property value?



2

Sales Analysis

A

What is the average sale price of properties sold as vacant versus those not sold as vacant?

B

Is there a noticeable trend in sale prices over the years?

C

Can you identify any seasonal patterns in the sale dates and prices?

Group By Functions

75%

EDA

62%



3

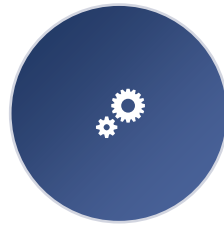
Ownership Patterns



1

Who are the top 10 property owners by the number of properties owned?

[Read More](#)



2

Is there a correlation between the number of properties owned by an owner and their average property value?

[Read More](#)



3

What is the distribution of property owners' addresses by city or region?

[Read More](#)

4

Property Characteristics and Values

01

How does the number of bedrooms relate to the property's total value?

02

Do properties with more bathrooms tend to have higher sale prices?

03

Is there a relationship between the year built and the total property value?



5

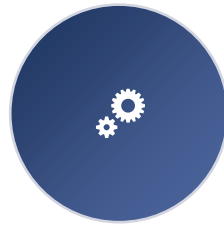
Vacant vs. Non-vacant Properties



1

What percentage of properties were sold as vacant?

[Read More](#)



2

Are vacant properties generally priced differently from non-vacant properties?

[Read More](#)



3

Do properties sold as vacant tend to have larger acreage compared to non-vacant ones?

[Read More](#)

6

Geographic Analysis

1

Can you visualize the distribution of property values across different regions on a map?



Location Distribution



Area Property Values

2

Are there specific areas with significantly higher property values than others?

3

How do property values vary in different tax districts?



Location Tax District



part 01



part 02



part 03



part 04

7

Year Built Analysis

01

Is there a trend in the average property value based on the year the property was built?

02

Which decade has the highest number of properties in the dataset?

03

Can you identify any outliers in terms of property values for specific years?



8

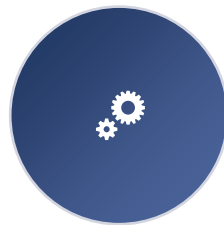
Bedrooms and Bathrooms Analysis



1

What is the average number of bedrooms and bathrooms for properties with different total values?

[Read More](#)



2

Are properties with more bedrooms typically associated with higher sale prices?

[Read More](#)



3

How does the presence of half baths affect property values?

[Read More](#)

9

Acreage and Property Value

1

Is there a relationship between the acreage of a property and its land value?



Land Acreage



Land and Building Worth

2

Are larger properties generally associated with higher building values?

3

Can you find any instances where properties with relatively small acreage have high total values?



Property Value



part 01



part 02



part 03



part 04

10

Property Assessment Accuracy

Is there a significant difference between the sum of land and building values and the total value?

Are there any patterns in terms of properties where land and building values differ significantly from the total value?



Can you identify potential cases of incorrect assessment based on value discrepancies?

Conclusion

Conclusion

The "Exploratory Data Analysis on a Housing Dataset" project serves as a valuable exercise in data analysis, providing practical experience in using SQL queries to extract meaningful insights from a complex dataset. The project's outcomes can offer valuable knowledge about housing market trends and property valuation factors.

