9. Scenario: You work for a real estate agency and have been given a dataset containing

information about properties for sale. The dataset is stored in a Pandas DataFrame named

property\_data. The DataFrame has columns for property ID, location, number of bedrooms, area

in square feet, and listing price. Your task is to analyze the data and answer specific questions about

the properties.

Question: Using Pandas DataFrame operations, how would you find the following information

from the property\_data DataFrame:

1. The average listing price of properties in each location.

2. The number of properties with more than four bedrooms.

3. The property with the largest area.

Code:

#9

import pandas as pd

property\_data = pd.read\_excel(r"C:\Users\hares\Downloads\q9\_30.xlsx")

avg\_price\_per\_location = property\_data.groupby('Location')['Listing Price'].mean().reset\_index()

more\_than\_4\_beds = property\_data[property\_data['Bedrooms'] > 4].shape[0]

largest\_area\_property = property\_data.loc[property\_data['Area (sqft)'].idxmax()]

print("Average Listing Price by Location:")

print(avg\_price\_per\_location)

print("\nNumber of Properties with More Than 4 Bedrooms:", more\_than\_4\_beds)

print("\nProperty with the Largest Area:")

print(largest\_area\_property)

output :

Average Listing Price by Location:

Location Listing Price

0 Los Angeles 1.500000e+06

1 New York 8.333333e+05

2 San Francisco 1.375000e+06

Number of Properties with More Than 4 Bedrooms: 3

Property with the Largest Area:

Property ID 6

Location Los Angeles

Bedrooms 6

Area (sqft) 3000

Listing Price 2200000

Name: 5, dtype: object

Dataset :

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Property ID** | **Location** | **Bedrooms** | **Area (sqft)** | **Listing Price** |
| 1 | New York | 3 | 1200 | 750000 |
| 2 | New York | 5 | 2000 | 1250000 |
| 3 | San Francisco | 2 | 900 | 950000 |
| 4 | Los Angeles | 4 | 1600 | 800000 |
| 5 | San Francisco | 5 | 2300 | 1800000 |
| 6 | Los Angeles | 6 | 3000 | 2200000 |
| 7 | New York | 1 | 700 | 500000 |