

# Project Title

## Bangalore Home Price Prediction

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# Project Objective

- ❖ Predict fair house prices in Bangalore using historical data.
- ❖ Helps buyers and sellers make data-driven decisions.
- ❖ Focus on area, BHK, bathrooms, and location.

# Dataset Overview

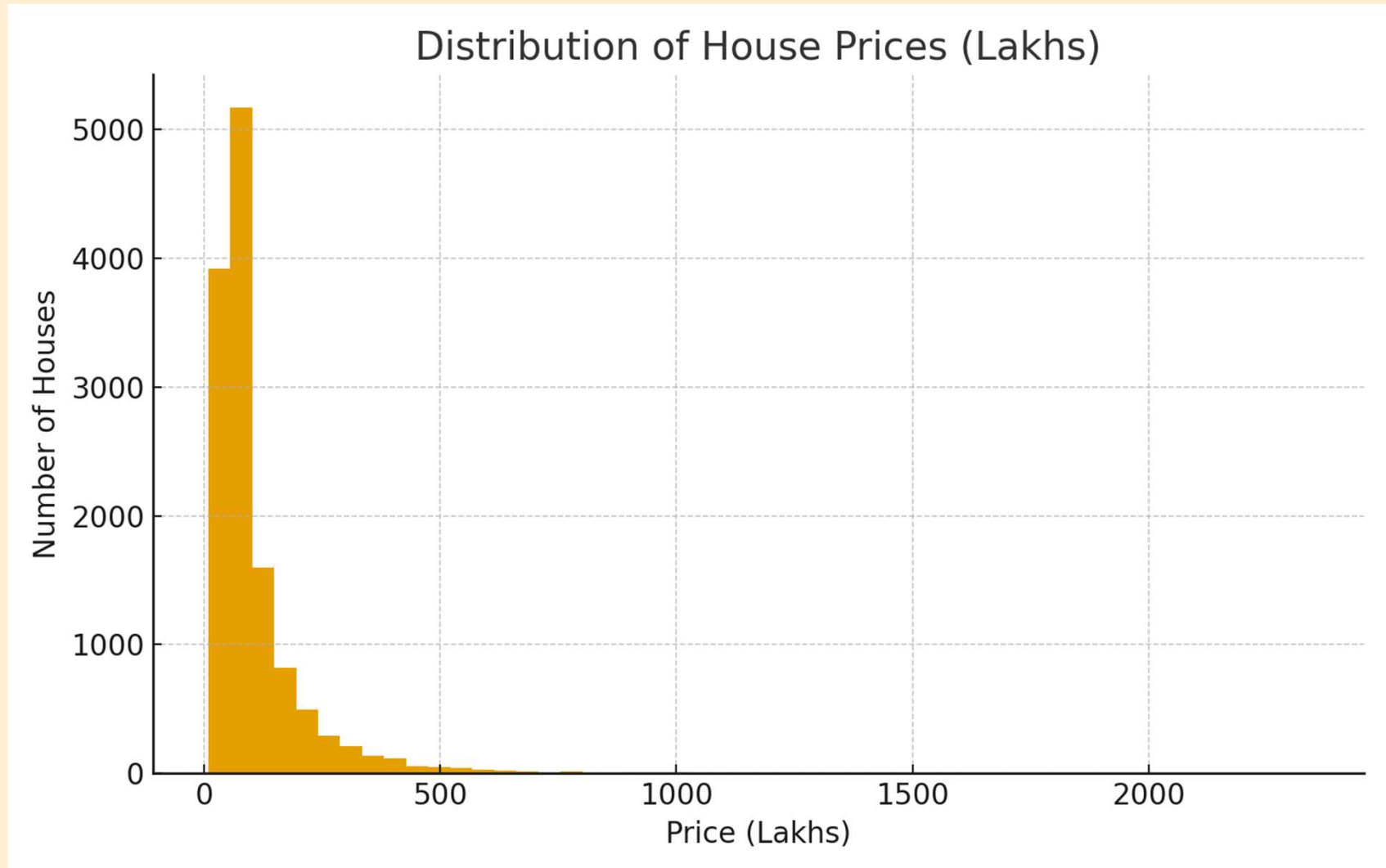
- ❖ Rows in original dataset: 13320
- ❖ Columns: area\_type, availability, location, size, society, total\_sqft, bath, balcony, price
- ❖ Key features used: total\_sqft, BHK (size), bath, location, price

	area_type	availability	location	size	society	total_sqft	bath	balcony	price
0	Super built-up Area	19-Dec	Electronic City Phase II	2 BHK	Coomee	1056	2.0	1.0	39.07
1	Plot Area	Ready To Move	Chikka Tirupathi	4 Bedroom	Theanmp	2600	5.0	3.0	120.00
2	Built-up Area	Ready To Move	Uttarahalli	3 BHK	NaN	1440	2.0	3.0	62.00
3	Super built-up Area	Ready To Move	Lingadheeranahalli	3 BHK	Soiewre	1521	3.0	1.0	95.00
4	Super built-up Area	Ready To Move	Kothanur	2 BHK	NaN	1200	2.0	1.0	51.00

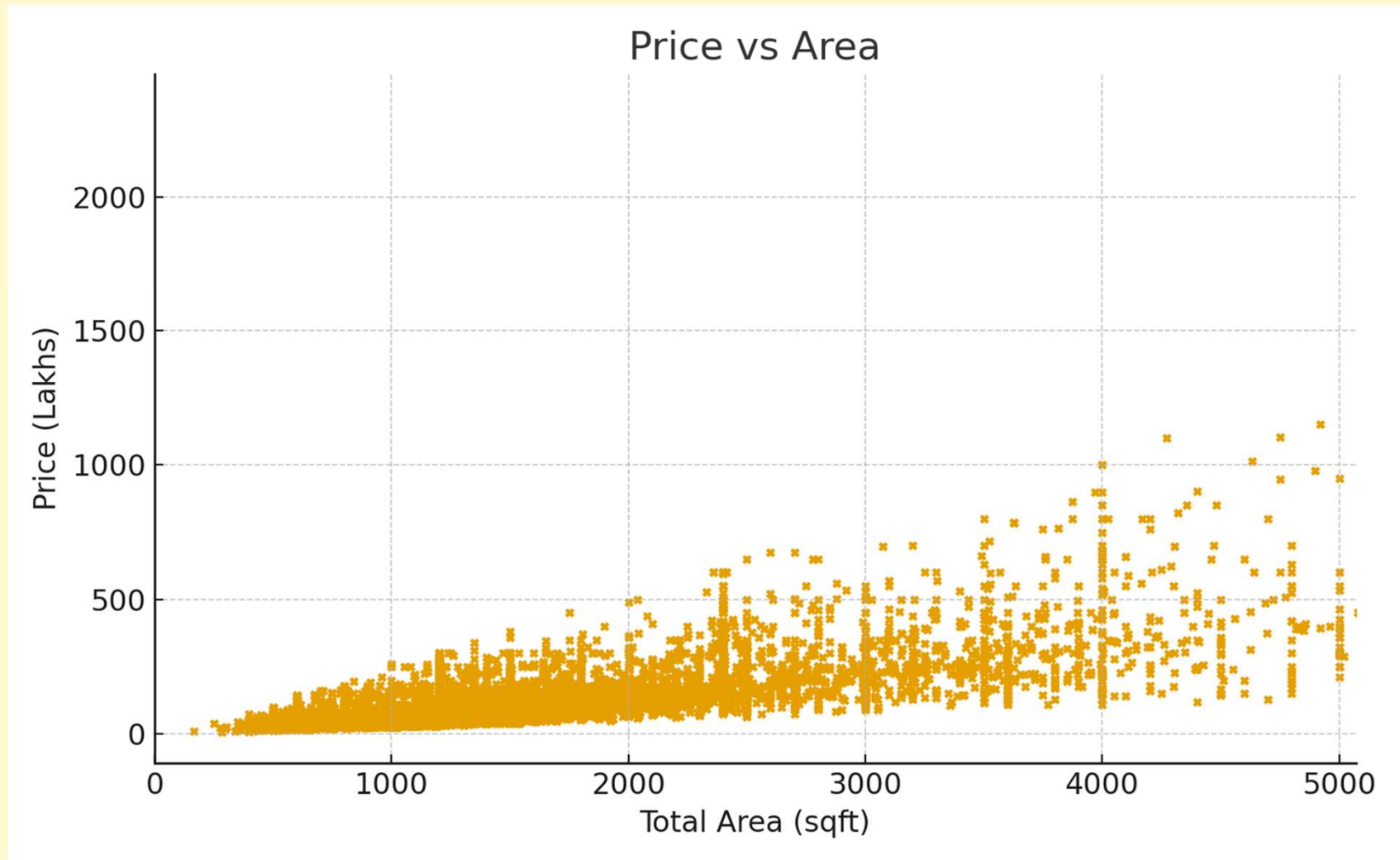
# Data Preprocessing

- ❖ Converted '**total\_sqft**' to numeric, handled ranges and units.
- ❖ Extracted BHK from '**size**' column.
- ❖ Computed price per **sqft** and removed **outliers** (1st-99th percentile).
- ❖ Final cleaned rows used for modeling: **13040**

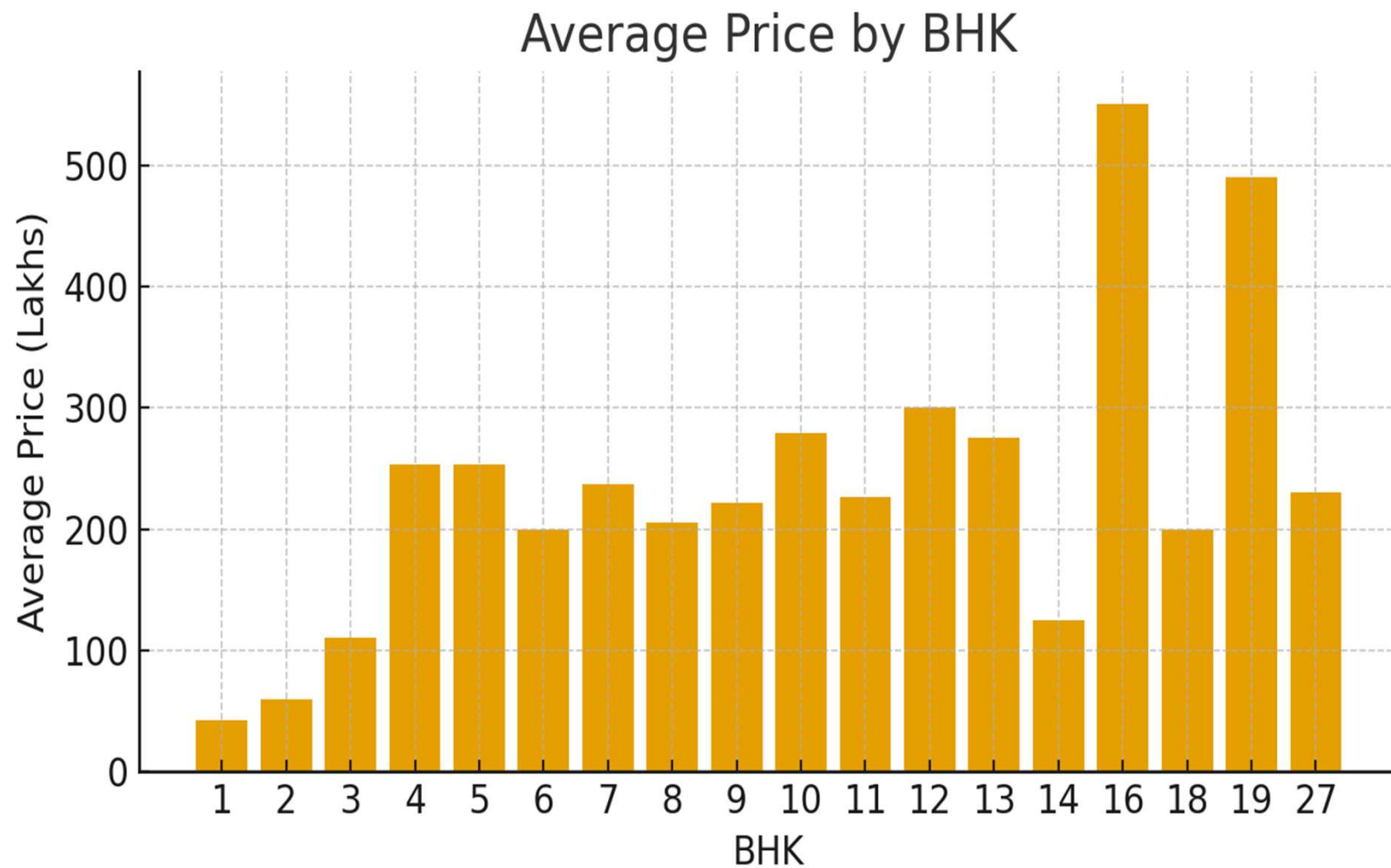
# Price Distribution (Lakhs)



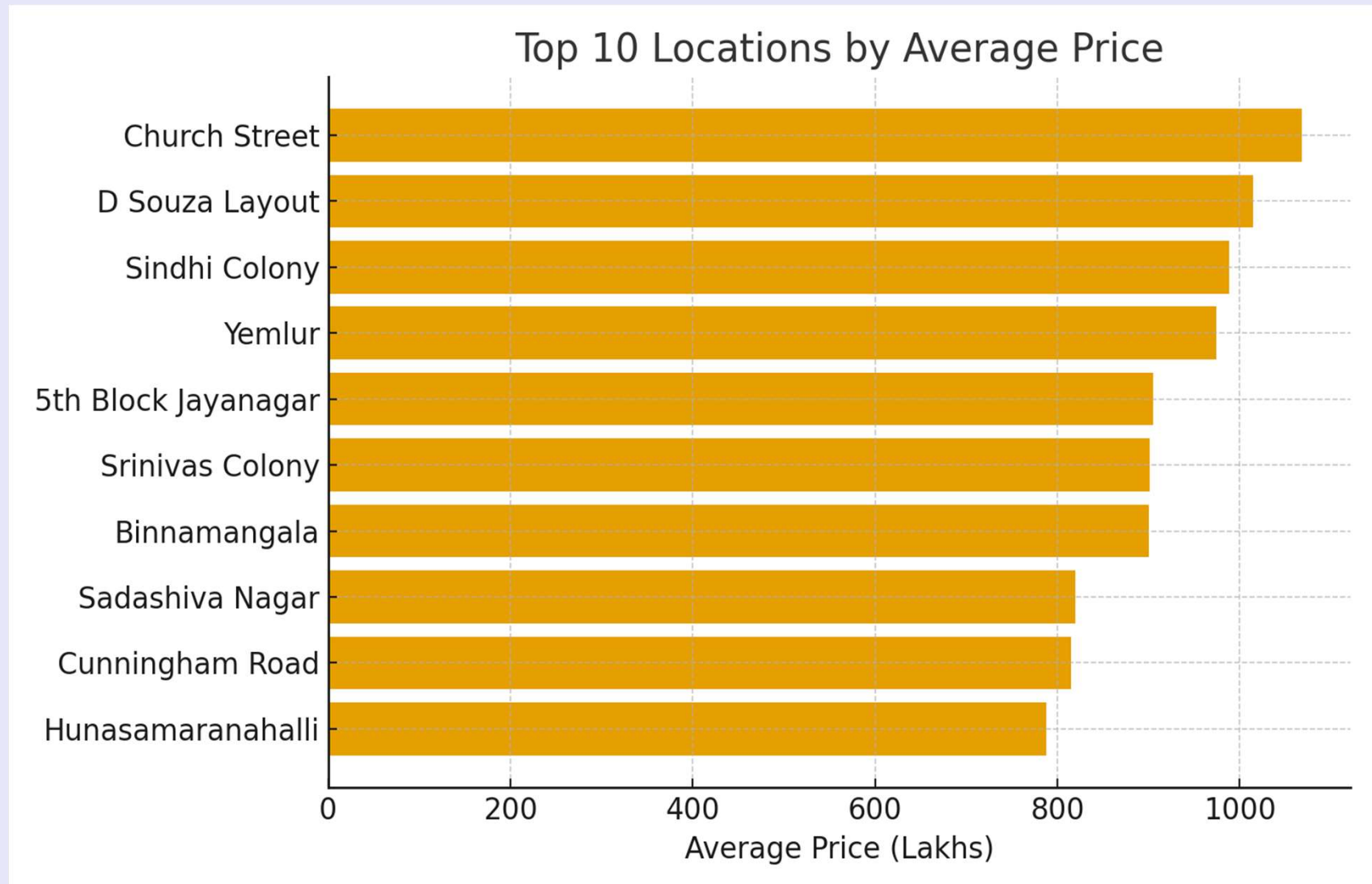
# Price vs Area (sqft)



# Average Price by BHK

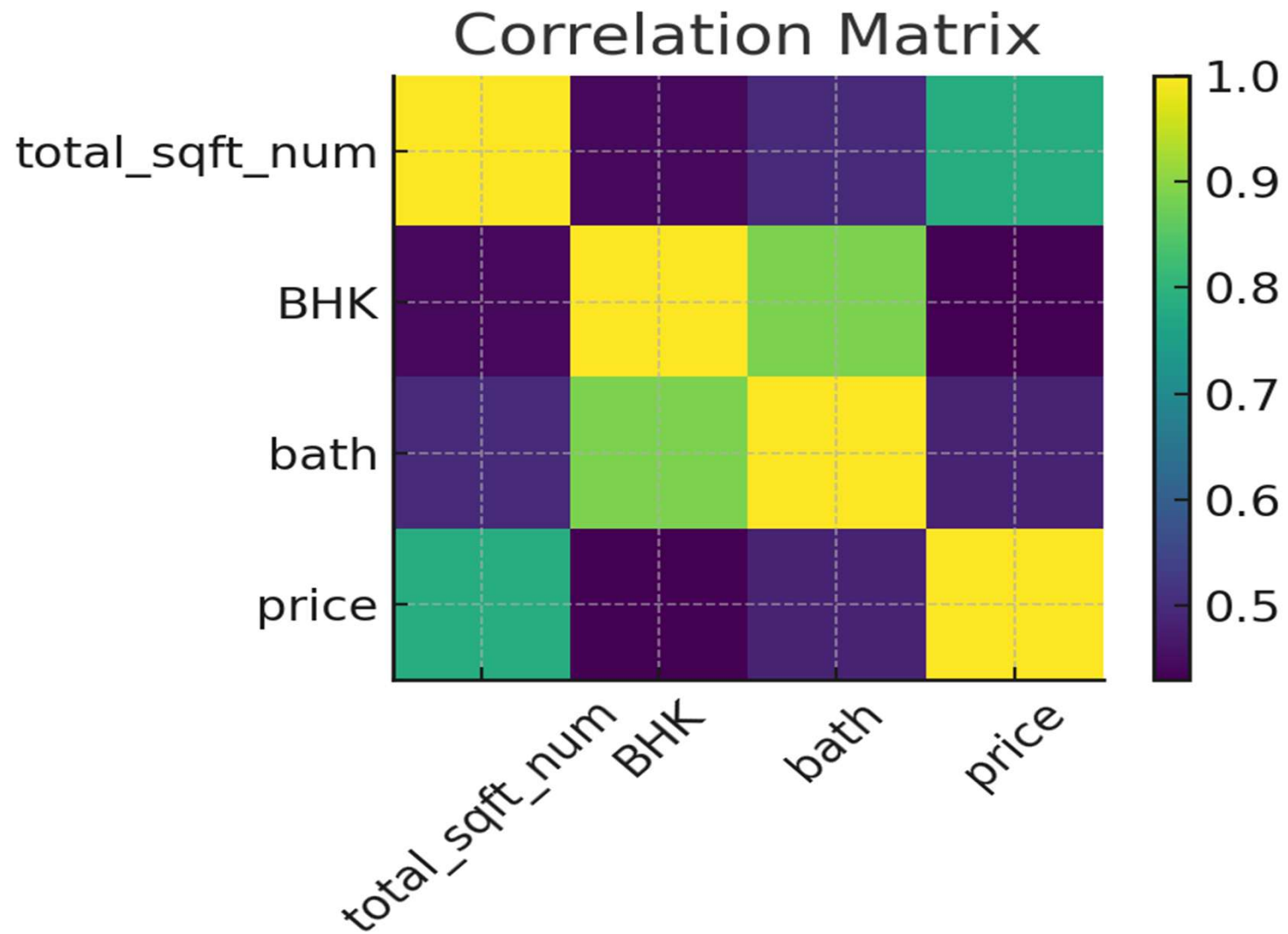


# Top 10 Locations by Average Price

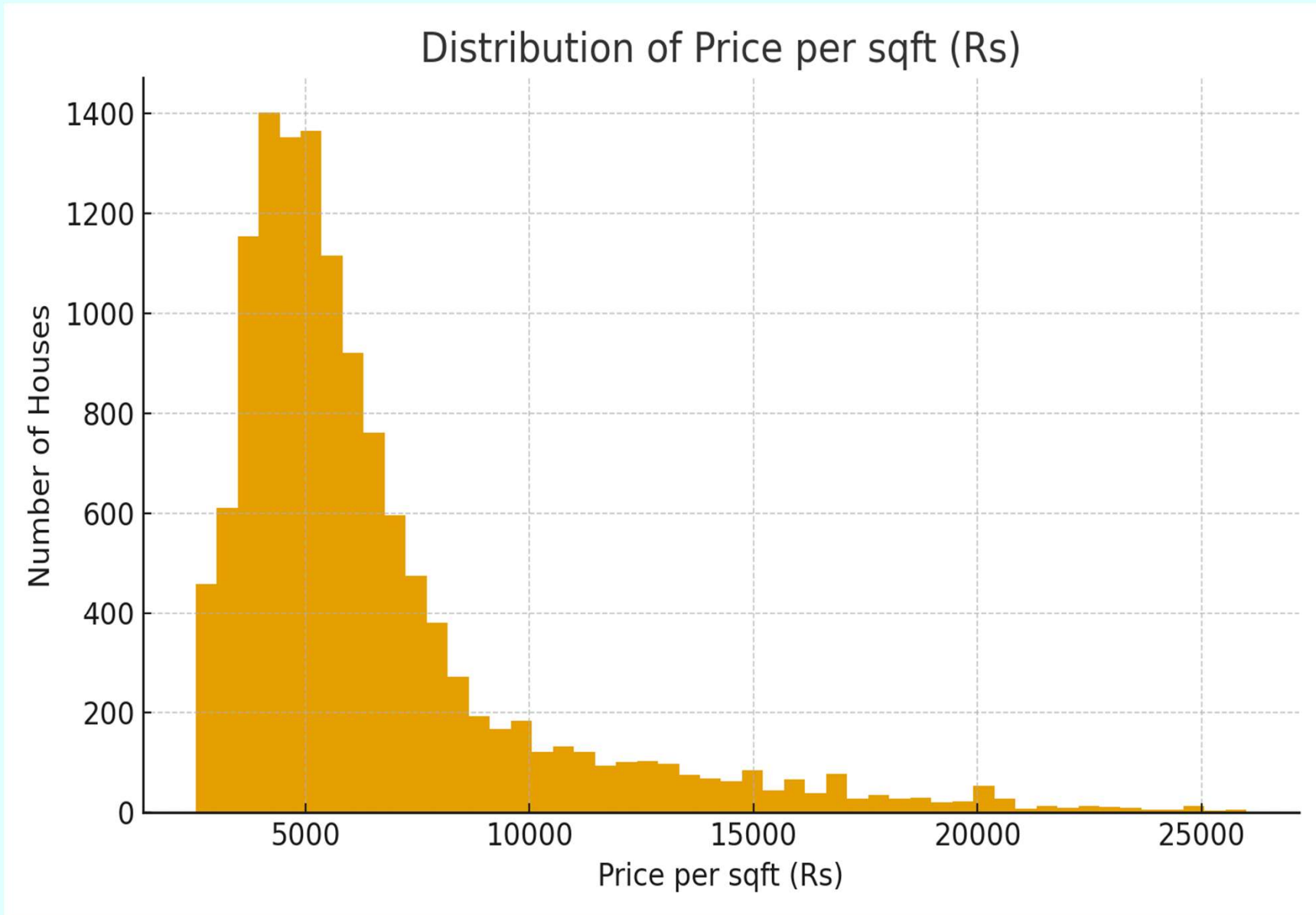




# Correlation Matrix (Area, BHK, Bath, Price)



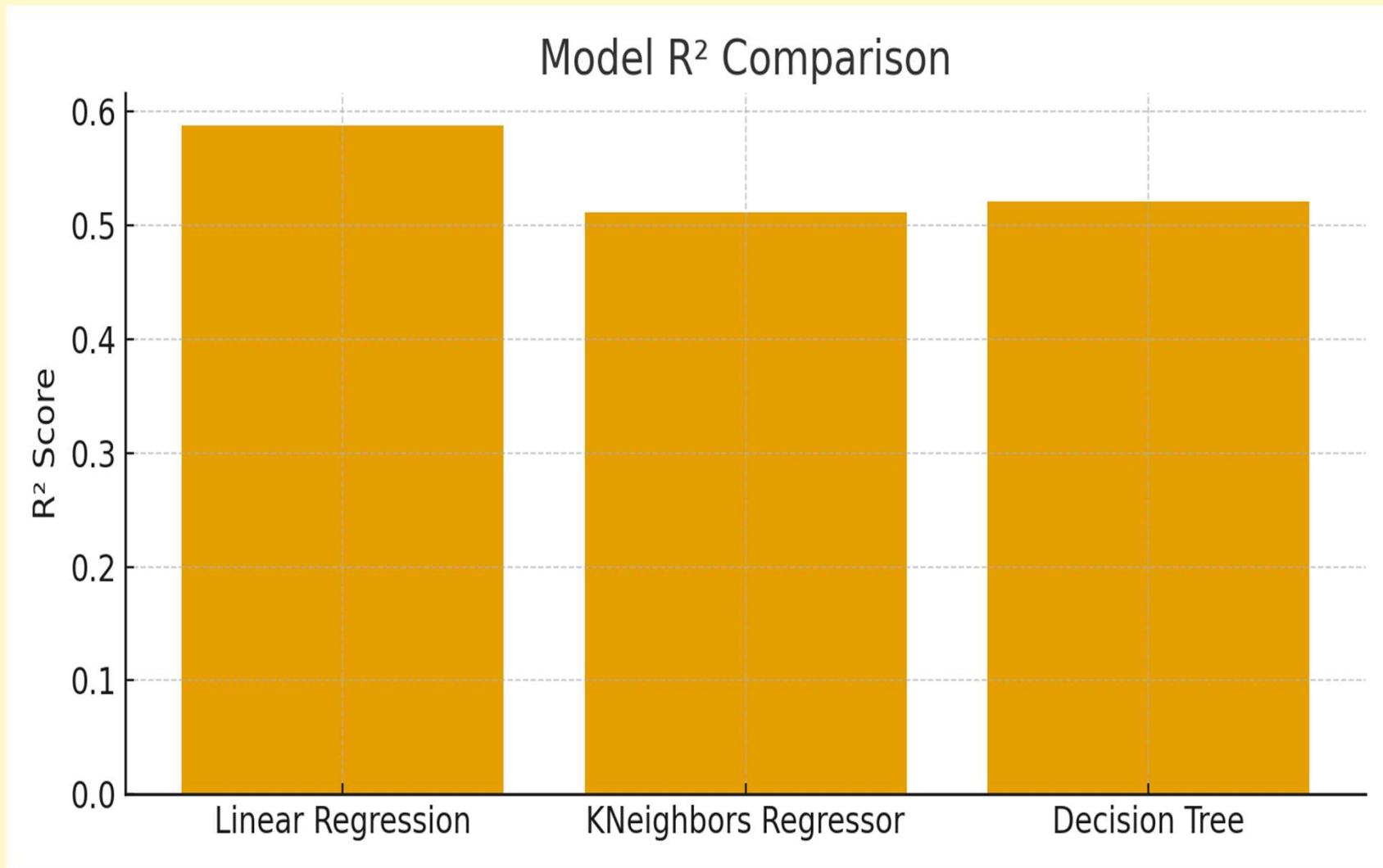
# Price per sqft Distribution (Rs)



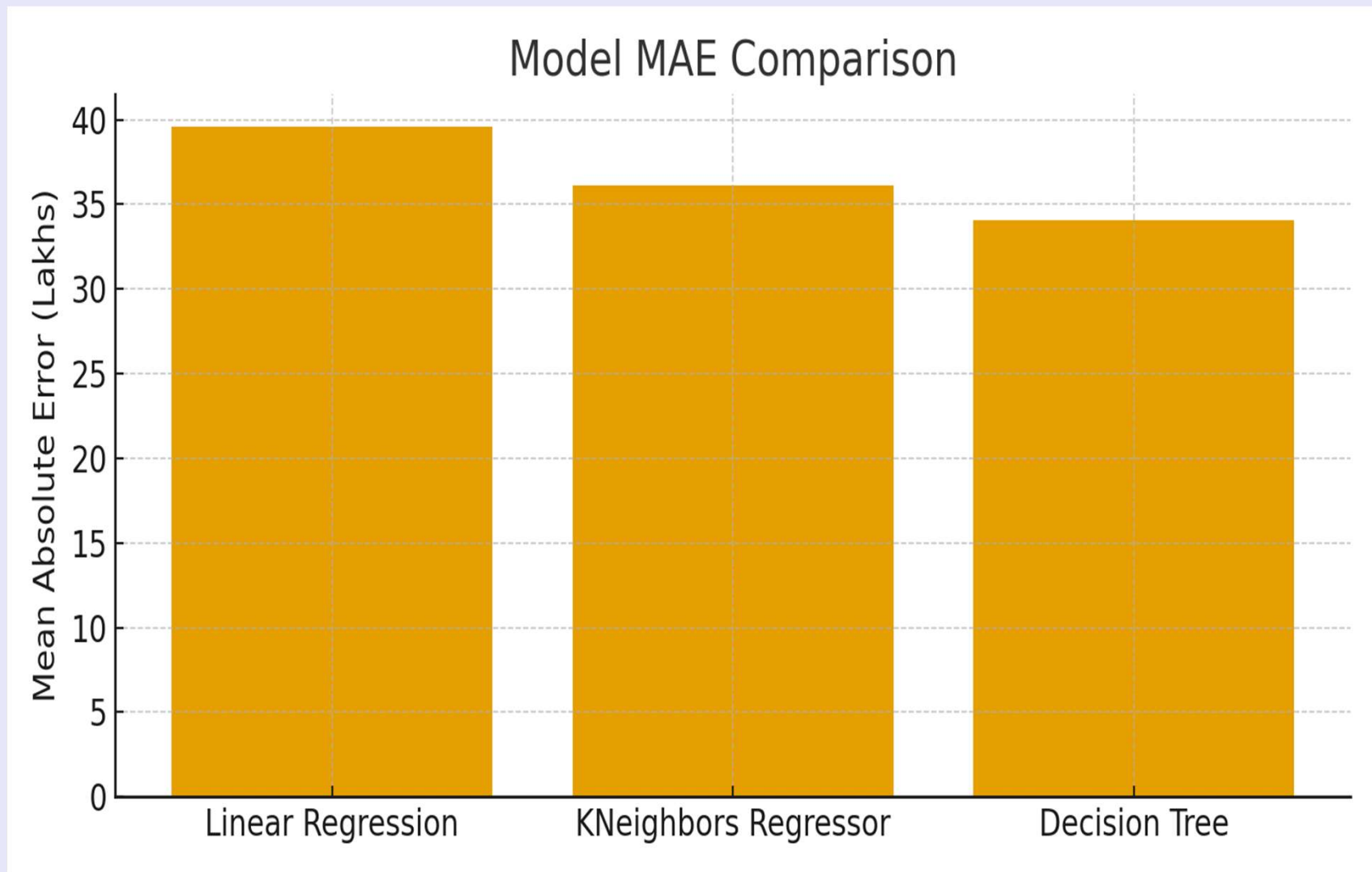
# Model Building - Approach

- ❖ Selected features: total\_sqft, BHK, bath, and top locations (one-hot).
- ❖ Tried multiple algorithms: Linear Regression, KNN, Decision Tree.
- ❖ Trained with 80% data and tested with 20% data.

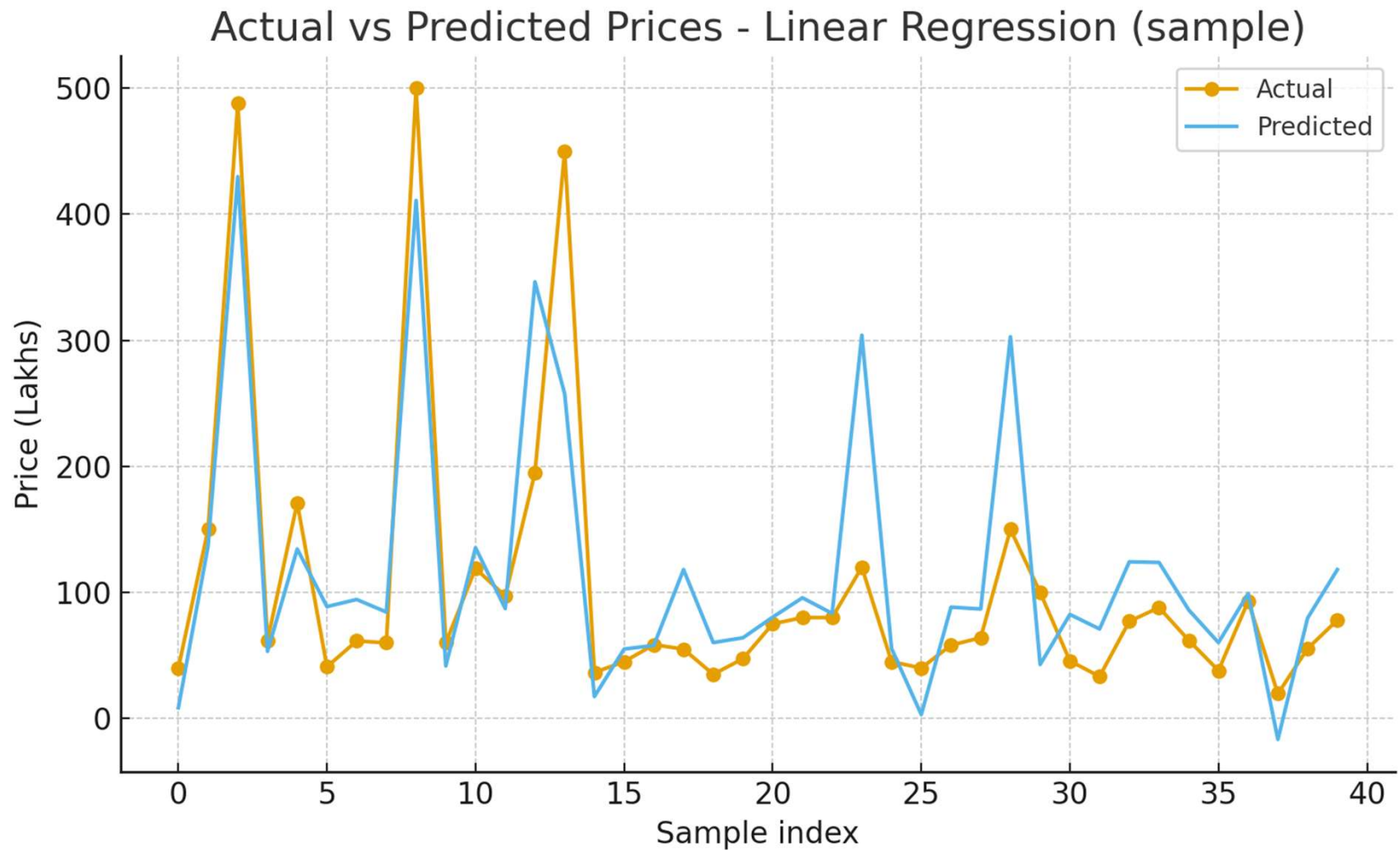
# Model $R^2$ Comparison



# Model MAE Comparison (Lakhs)



# Actual vs Predicted



# Bangalore Home Price Prediction



## Bangalore Home Price Prediction

Area (Square Feet)

BHK

Bath

Location

Choose a Location



Estimate Price

**Estimated Price: 83.87 Lakh**

# Results & Insights

- ❖ Best model (by  $R^2$ ): Linear Regression
- ❖ Location and area are strong drivers of price; BHK and bathrooms also matter.
- ❖ Price per sqft varies widely across locations — location heavily influences price.



# Conclusion & Future Work

- ❖ Model provides reasonable price estimates using basic features.
- ❖ Future improvements: add amenities, year built, proximity to metro/schools, and more features.
- ❖ Deploy model with REST API and mobile front-end for public use.

# Thank you

