

Georgia Homes & Properties

MSBA 230 Final project



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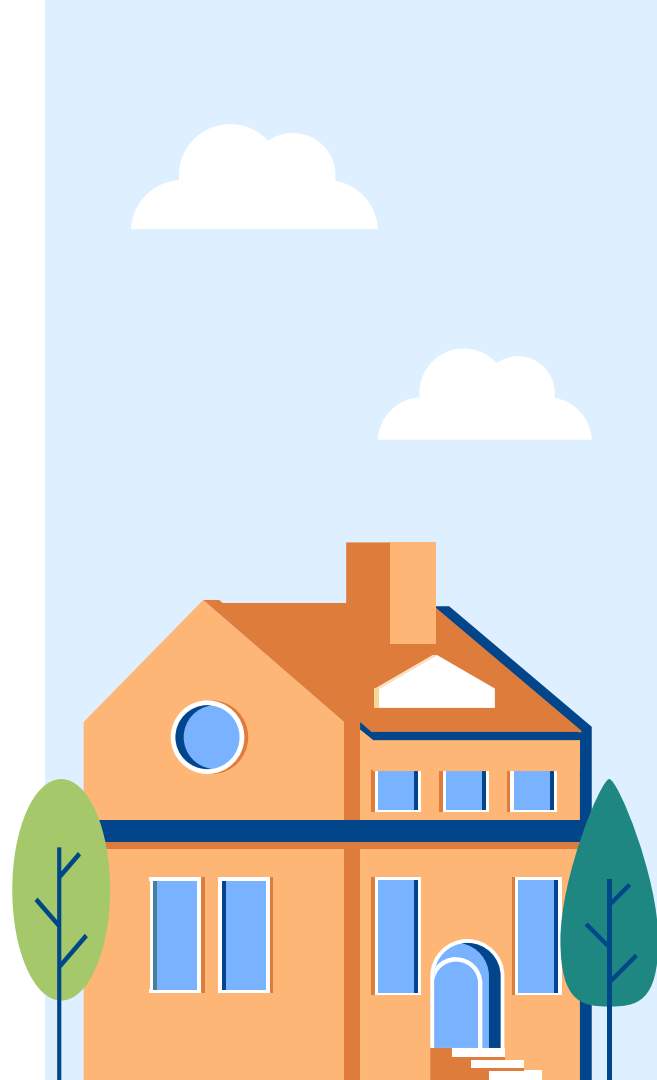
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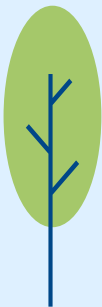
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01

INTRODUCING TEAM



OUR TEAM MEMBERS



**Janam
Kanaiyalal
Patel**

Pricing Analyst

- Analyze pricing data to optimize property listings.
- Monitor market trends affecting property values.

**Pichsinee
Kalklod**


Market Research Analyst

- Analyze strategies and market positioning for the company.
- Provide recommendations for strategic decision-making.

**Aminaa
Tserendagva**

Customer Experience Analyst

- Analyze customer feedback and satisfaction data.
- Implement strategies for retaining satisfied customers.



OUR TEAM MEMBERS



**Vijeth
Melugiriyappa**

Data Science Specialist

- Analyze large datasets to identify patterns and opportunities.
- Collaborate with the IT team to implement data-related technologies.


**Shaunak
Satishkumar
Ghachelia**

Business Intelligence Analyst

- Analyze housing market trends and provide actionable insights.
- Collaborate with stakeholders to understand reporting requirements.

**Yaroslav
Borsuk**

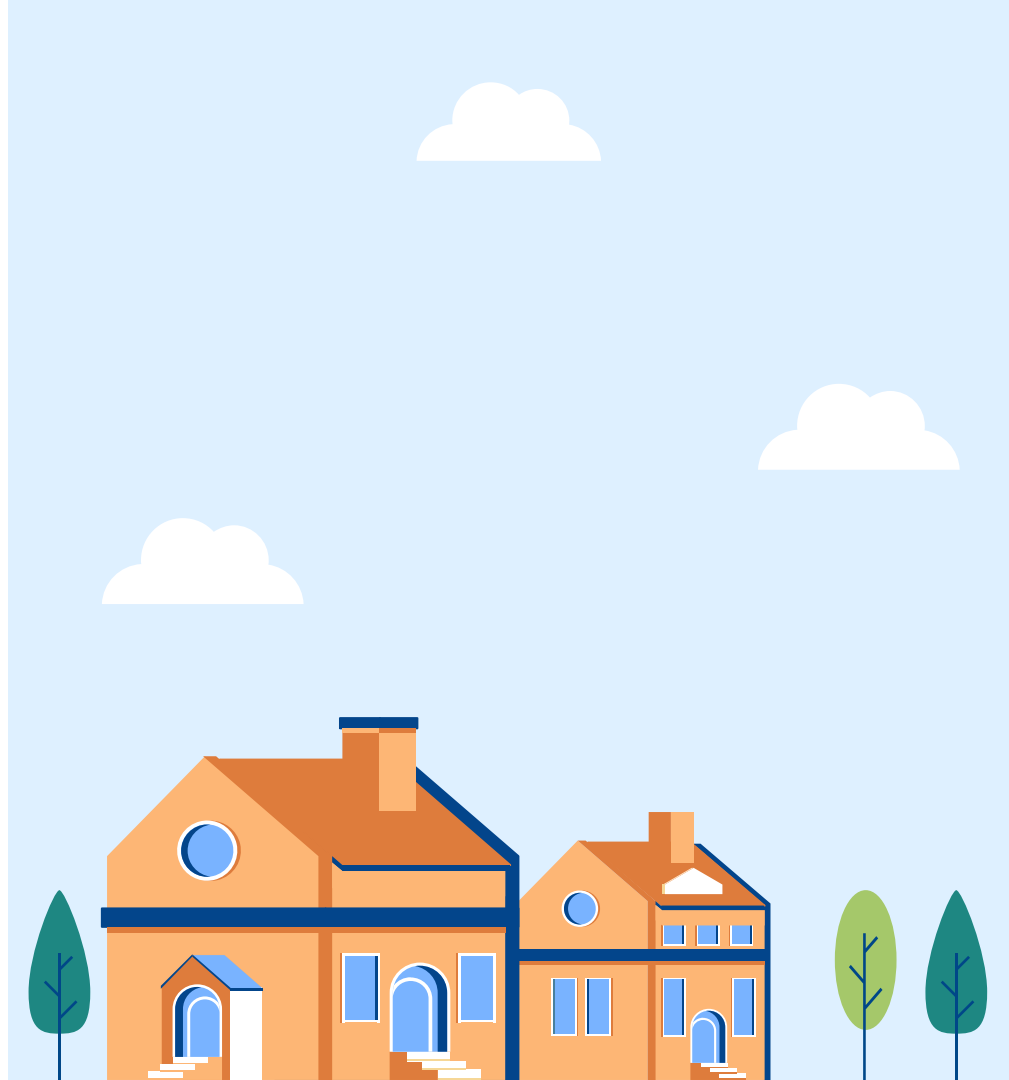
Chief Data Officer

- Oversee the company's data strategy and analytics initiatives.
 - Lead a team of analysts to derive insights from housing datasets.
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02

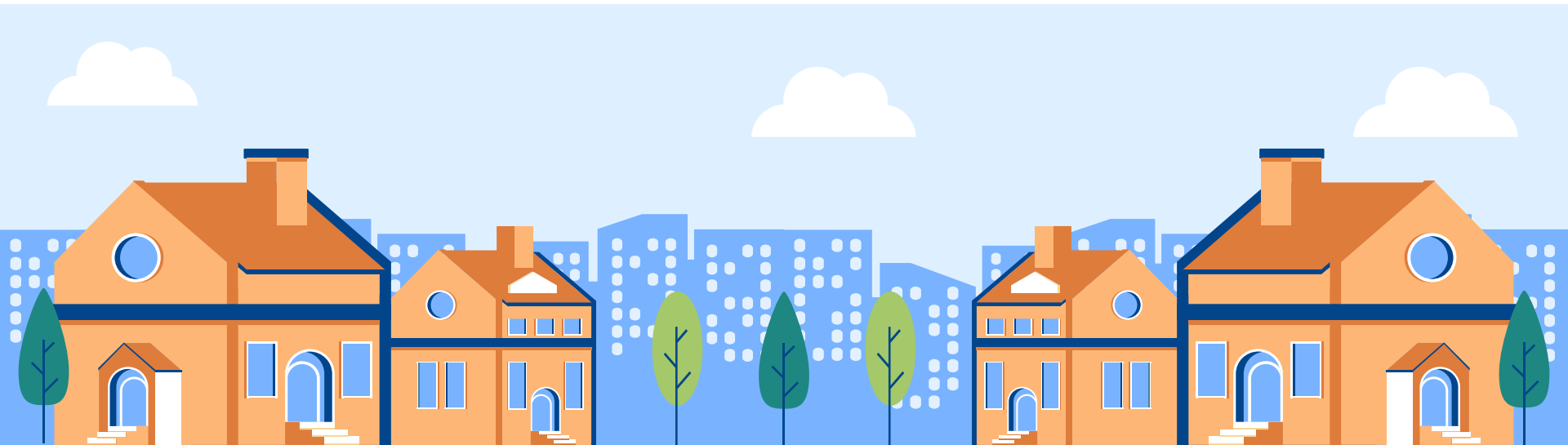
INTRODUCTION

Company background and
goals



ABOUT THE COMPANY

We're real estate company base in Georgia. At Georgia Homes & Properties, we believe that finding your dream home should be as exciting as opening Christmas presents. Our unique approach combines with real estate expertise, ensuring that every property feels like a big box of present waiting to be opened.






COMPANY'S GOALS

- Glamorous Home Experiences: Elevate the home-buying journey to a glamorous and memorable experience.
- Personalized Property Matches: Provide tailored property recommendations based on individual preferences.
- Customer-Centric Approach: Prioritize client satisfaction through personalized service and attention.

Georgia Homes & Properties is not just a real estate company; it's a lifestyle brand that transforms the home-buying journey into a glamorous adventure. Join us on this journey where the perfect home meets a touch of glamour!





"Home is not just a place; it's a feeling of belonging. In the journey of life, finding the perfect home is akin to discovering the missing piece that completes the puzzle of our existence."

—**SOMEONE** FAMOUS



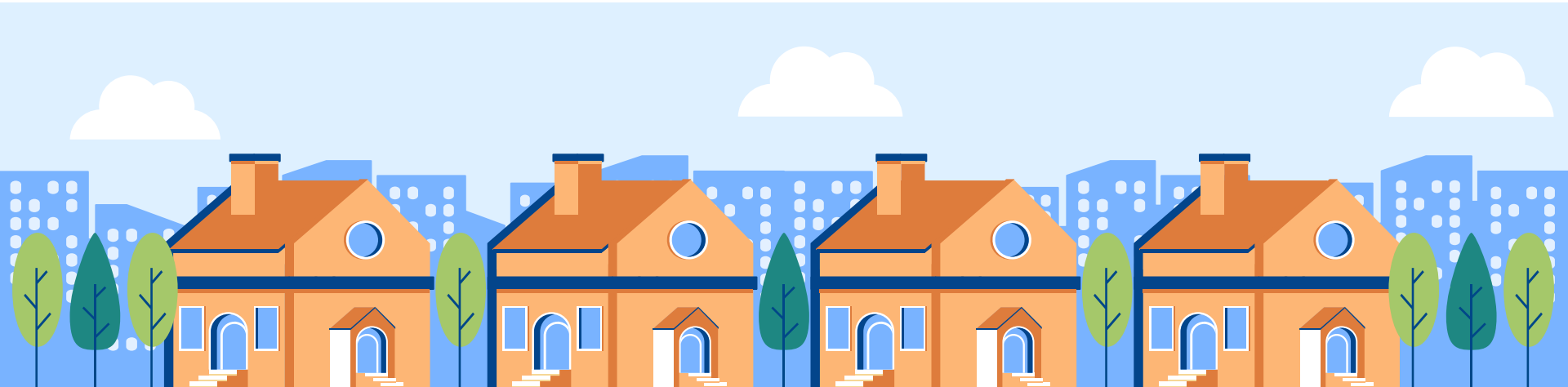


03

PROJECT & ANALYSIS







Introducing project and Analysis






PURPOSE




PROJECT PURPOSE

	01	Market Analysis and Pricing Strategy	Understand the average home prices in different cities to develop effective pricing strategies
	02	Comparative Analysis	Analyze how average prices vary across different regions to identify potential market trends
	03	Price Sensitivity to Features	Understand how property features (sqft, bedrooms, bathrooms) impact pricing
	04	Competitive Analysis	Identify properties with similar prices but different characteristics





PROJECT PURPOSE

	05	Renovation Impact	Assess how renovations influence property prices
	06	Listing Analysis	Analyze the status of listings (sold, listed) to understand market dynamics
	07	Regional Market Ranking	Identify the top 10 counties with the highest and lowest property prices.





DATABASE

The dataset presents data that are important for analysis which included,

- **ID** : A distinctive identifier for each property listing.
- **CountyID, CityID** : A distinctive identifier of counties and cities in Georgia.
- **DatePosted** : An update date for clients informed about the listings.
- **IsBankOwned, IsforAuction** : Transparent indicators of property status for a clear market understanding.
- **Price, PricePerSquareFoot** : Financial details tailored to individual budgets.
- **City, State, Zip Code, StreetAddress** : Locational details.
- **YearBuilt** : Insights into the age of properties.
- **Living Area, Bathrooms, Bedrooms, Parking, GarageSpaces** : Physical attributes providing a comprehensive understanding of each property.
- **IsNewConstruction** : Indicating fresh, new opportunities for prospective homebuyers.
- **HomeType** : A diverse array of home styles.





DATABASE

The database is the main focus of our analytics strategy, enabling us to:

- Tailor Offerings : Utilize county and city to personalize property recommendations.
- Optimize Pricing : Leverage pricing and square footage data for strategic listing price decisions.
- Enhance Customer Experience : Analyze bathrooms, bedrooms, and living areas to tailor offerings to individual preferences.
- Market Positioning: Utilize market trends and location data for effective market positioning.

This database is not just a collection of information; it's a dynamic tool that will allow us moving toward our mission of transforming the home-buying journey into a glamorous adventure for every client we serve.



PROJECT ASSUMPTIONS



ERD

Four main tables

- Location
 - cityid (PK)
 - city
 - state
 - zipcode
 - countyid
- Listing
 - index (PK)
 - propertyid
 - countyid
 - cityid
 - datepostedstring
 - is_bankowned
 - is_forauction
 - event
 - price
- Property
 - Id (PK)
 - Yearbuilt
 - Longitude
 - Latitude
 - bathrooms
 - bedrooms
 - parking
 - garagespaces
 - levels
 - isnewconstruction
- County
 - countyid (PK)
 - county



QUERIES

```
/* Count of Properties on kinds of event such as sold, available */
```

```
Select event,  
       COUNT(*) AS PropertyCount  
FROM listing  
GROUP BY event;
```

```
/* List of housing available for sale in the given price/squarefoot range */
```

```
SELECT propertyid,AveragePriceCity.cityid,  
       location.city, listing.countyid  
FROM AveragePriceCity  
JOIN listing ON AveragePriceCity.cityid = listing.cityid  
JOIN location ON listing.cityid = location.cityid  
WHERE event = 'Listed for Sale' AND  
       AveragePrice BETWEEN 150 AND 200  
ORDER BY city;
```

Results Messages				
	event	PropertyCount		
1	Listed for sale	3614		
2	Sold	41		
3	Price change	828		
4	Pending sale	3		
5	Listing remo...	74		
	propertyid	cityid	city	countyid
1	30179-237733402	29455	Athens	81387
2	30179-69974743	29455	Athens	81388
3	30179-237741199	29455	Athens	81393
4	30179-246318164	29455	Athens	81396
5	30179-71746800	29455	Athens	81397
6	30179-237733307	29455	Athens	81400
7	30179-69947440	29455	Athens	81401

```
/* Properties sold in a given year */
IF OBJECT_ID('fnGetPropertySoldByYear') IS NOT NULL
    DROP FUNCTION fnGetPropertySoldByYear;
GO
CREATE FUNCTION fnGetPropertySoldByYear
    (@Year int)
    RETURNS int
AS
BEGIN
    DECLARE @PropertyCount int;
    SELECT @PropertyCount = COUNT(*)
    FROM Listing
    WHERE YEAR(datepostedstring) = @Year
        AND event = 'Sold';

    RETURN @PropertyCount;
END;
GO
PRINT 'Property Count: ' + CONVERT(NVARCHAR(20), dbo.fnGetPropertySoldByYear(2020));
```

Property Count: 41

Completion time: 2023-11-28T23:02:54.1698196-08:00

```

/* The below view gives the average price/square foot for each city*/
GO
IF OBJECT_ID('AveragePriceCity') IS NOT NULL
    DROP VIEW AveragePriceCity;
GO
CREATE VIEW AveragePriceCity AS
    SELECT cityid, AVG(pricepersquarefoot) AS AveragePrice
    FROM listing
    GROUP BY cityid;
GO
SELECT * FROM AveragePriceCity
ORDER BY cityid ASC;

/*The below query gives the list of top10 cities with highest average price/square foot from the view*/
SELECT TOP 10 AveragePriceCity.cityid, AveragePrice, city
FROM AveragePriceCity
JOIN location ON AveragePriceCity.cityid = location.cityid
ORDER BY AveragePrice DESC;

```

Results		Messages	
	cityid	AveragePrice	
1	0	158.6283	
2	3312	170.00	
3	3360	105.00	
4	3796	142.1428	
5	3871	238.50	
6	4285	77.00	
7	4467	47.00	
8	4500	254.00	

	cityid	AveragePrice	city
1	39452	6316.0606	Atlanta
2	12851	688.00	Nicholson
3	35602	365.3333	Oxford
4	55425	360.50	Athens
5	7298	353.00	Augusta
6	52188	350.00	Rossville
7	23748	347.1428	Cleveland
8	28800	343.50	Mount A...
9	44978	330.625	Athens
10	39863	329.3333	Lawrenc...

```

/*The below stored procedure will fetch the maximum and minimum price per square foot for a given city*/
IF OBJECT_ID('spGetMaxMinPrice') IS NOT NULL
    DROP PROC spGetMaxMinPrice;
GO
CREATE PROC spGetMaxMinPrice
    @CityID int
AS
DECLARE @MaxPrice smallint;
DECLARE @MinPrice smallint;

SELECT @MaxPrice = MAX(pricepersquarefoot),
       @MinPrice = MIN(pricepersquarefoot)
FROM listing
WHERE cityid = @CityID;
PRINT 'City: ' + CONVERT(NVARCHAR(20),@CityID);
PRINT 'Maximum Price: $' + CONVERT(NVARCHAR(20), @MaxPrice);
PRINT 'Minimum Price: $' + CONVERT(NVARCHAR(20), @MinPrice);

GO
EXEC spGetMaxMinPrice @CityID=32767;

```

```

City: 32767
Maximum Price: $143
Minimum Price: $32

Completion time: 2023-11-28T23:01:13.6571151-08:00

```

```

/* List of all the properties available for sale */
GO
IF OBJECT_ID('AvailableForSale') IS NOT NULL
    DROP VIEW AvailableForSale;
GO
CREATE VIEW AvailableForSale AS
SELECT propertyId, county,
       city, price, pricepersquarefoot
FROM listing
JOIN location ON listing.cityid = location.cityid
JOIN county ON location.countyid = county.countyid
WHERE listing.event = 'Listed for sale';

GO
SELECT * from AvailableForSale;

```

Results Messages

	propertyId	county	city	price	pricepersquarefoot
1	30094-69419069	Bulloch County	Statesboro	439000.00	126.00
2	30106-14359216	Lumpkin County	Dahlonega	255000.00	183.00
3	30106-248399147	Lumpkin County	Dahlonega	350000.00	203.00
4	30106-14356631	Lumpkin County	Dahlonega	335000.00	121.00
5	30122-205796058	Bibb County	Macon	415000.00	185.00
6	30122-205798074	Bibb County	Macon	215000.00	126.00
7	30106-14356486	Lumpkin County	Dahlonega	199000.00	123.00
8	30127-14350821	Stephens Cou...	Eastanol...	235000.00	198.00
9	30106-14357419	Lumpkin County	Dahlonega	226000.00	149.00
10	30106-14324349	Lumpkin County	Dahlonega	265000.00	166.00
11	30106-14354460	Lumpkin County	Dahlonega	239000.00	202.00
12	30127-14354384	Stephens Cou...	Eastanol...	525000.00	208.00

Top 10 county with highest average price

```
SELECT TOP 10
    loc.countyid,
    c.county,
    AVG(l.price) AS avg_price
FROM
    listing l
JOIN
    location loc ON l.countyid = loc.countyid
JOIN
    county c ON loc.countyid = c.countyid
GROUP BY
    loc.countyid, c.county
ORDER BY
    avg_price DESC;
```

	countyid	county	avg_price
1	13140	Oconee County	1350000.00
2	42428	Habersham County	949000.00
3	45249	Habersham County	859000.00
4	84481	Dekalb County	850000.00
5	1870	Jasper County	775000.00
6	23953	Douglas County	760800.00
7	208204	Bartow County	749900.00
8	13480	Gwinnett County	725000.00
9	2581	Dekalb County	700000.00
10	81344	Dekalb County	675000.00

Average price by city and bank owned type

```
SELECT
    loc.cityid,
    loc.city,
    loc.zipcode,
    AVG(CASE WHEN l.is_bankowned = 1 THEN l.price ELSE NULL END) AS avg_bank_owned_price,
    AVG(CASE WHEN l.is_bankowned = 0 THEN l.price ELSE NULL END) AS avg_non_bank_owned_price
FROM
    listing l
JOIN
    location loc ON l.cityid = loc.cityid
GROUP BY
    loc.cityid, loc.city, loc.zipcode
ORDER BY
    loc.city ASC;
```

	cityid	city	zipcode	avg_bank_owned_price	avg_non_bank_owned_price
1	48085	Acworth	30102	NULL	168156.8421
2	38359	Adel	31620	NULL	518500.00
3	31501	Albany	31705	NULL	294807.6923
4	31615	Albany	31721	NULL	174133.3333
5	49090	Albany	31705	NULL	211633.3333
6	10279	Alpharetta	30009	NULL	85000.00
7	12798	Alto	30510	NULL	340836.8421

Average price for bank owned column

```
SELECT
    l.is_bankowned,
    AVG(price) AS avg_price
FROM
    listing l
GROUP BY
    l.is_bankowned;
```

	is_bankowned	avg_price
1	0	348564.688
2	1	159900.00

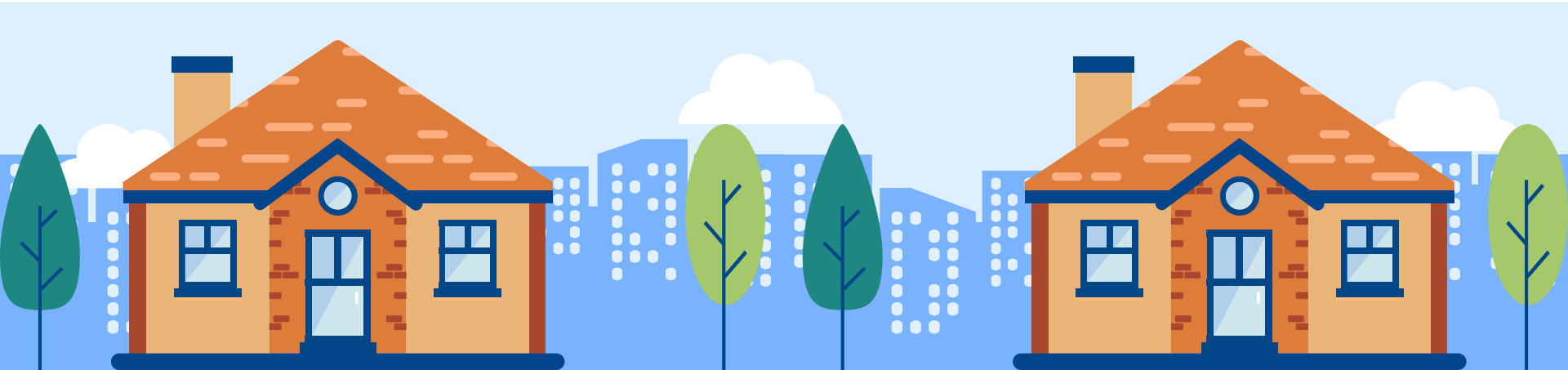
Average price by number of bed/bathroom

```
SELECT
    p.bedrooms,
    p.bathrooms,
    AVG(l.price) AS avg_price
FROM
    listing l
JOIN
    property p ON l.propertyId = p.id
GROUP BY
    p.bedrooms, p.bathrooms
ORDER BY
    p.bedrooms, p.bathrooms;
```

	bedrooms	bathrooms	avg_price
1	0	0	351194.0149
2	0	1	152250.00
3	1	0	76000.00
4	1	1	239015.6184
5	1	2	304800.4615
6	1	4	465000.00
7	2	0	199900.00
8	2	1	178585.2098

04

PROJECT SUMMARY







CONVINCING ARGUMENT

- Janam's role as a Pricing Analyst is crucial in ensuring that the prices optimize sales and profitability while still serving the right customer target. This allows the company to stay ahead of consumer preferences and adjust prices to align with evolving market dynamics.
 - Pichsinee's role as a Market Research Analyst, she plays the key role in shaping the company's strategic direction by identifying market trends and consumer preferences. Along with providing a foundation for strategic decision-making, guiding the company in development.
 - Aminaa's role as a Customer Experience Analyst is pivotal in analyzing customer feedback and satisfaction data by understanding customer preferences from popular types of properties.
- 
- 



CONVINCING ARGUMENT

- Vijeth's expertise in data science with analyzing large datasets, identify relationship between data related to consumer behavior, popular product trends, and market opportunities, and collaborates with the IT team to implement data-related technologies.
 - Shaunak's role as a Business Intelligence Analyst is centered in collaborates closely with stakeholders to understand reporting requirements. Including analyzing trends and translating them into actionable insights.
 - As the Chief Data Officer, Yaroslav provides strategic oversight for the company's data strategy and analytics initiatives. He leads a team of analysts, ensures that the team collectively works towards overall success of the company.
- 
- 



SUMMARY

In this project we showcased the team's proficiency in SQL queries and strategic data analysis. After the analysis we found that some of them fell into the assumptions we made and some were not. The average price of property in different locations can vary, bank-owned properties are priced lower than non-bank-owned properties, Atlanta seems to have the highest average property price and the amount of properties sold in 2021 was significantly increased are all true while properties with more bedrooms and bathrooms tend to command higher prices is interestingly false.



THANK YOU

DO YOU HAVE ANY
QUESTIONS?

