



# **New York Housing Market**

Data Science SQL  
Mini-Project

**By Khushi**



# INSIGHT 1

## Reading the whole table.

```
SELECT *  
FROM nyhd;
```

This query returns all the data from the table. It provides insight into the fields and records of the table.

```
3  -- Reading the whole table.  
4  • SELECT * FROM nyhd;  
5
```

	BROKERTITLE	TYPE	PRICE	BEDS	BATH	PROPERTYSQFT	ADDRESS	STATE
▶	Brokered by Douglas Elliman -111 Fifth Ave	Condo for sale	315000	2	2	1400	2 E 55th St Unit 803	New York, NY 10022
	Brokered by Serhant	Condo for sale	195000000	7	10	17545	Central Park Tower Penthouse-217 W 57th New...	New York, NY 10019
	Brokered by Sowae Corp	House for sale	260000	4	2	2015	620 Sindair Ave	Staten Island, NY 10314
	Brokered by COMPASS	Condo for sale	69000	3	1	445	2 E 55th St Unit 908W33	Manhattan, NY 10022
	Brokered by Sotheby's International Realty - Ea...	Townhouse for sale	55000000	7	2	14175	5 E 64th St	New York, NY 10022
	Brokered by Sowae Corp	House for sale	690000	5	2	4004	584 Park Pl	Brooklyn, NY 11215
	Brokered by Douglas Elliman - 575 Madison Ave	Condo for sale	899500	2	2	2184	157 W 126th St Unit 1B	New York, NY 10030
	Brokered by Connie Profaci Realty	House for sale	16800000	8	16	33000	177 Benedict Rd	Staten Island, NY 10314
	Brokered by Pantiga Group Inc.	Co-op for sale	265000	1	1	750	875 Morrison Ave Apt 3M	Bronx, NY 10472
	Brokered by CENTURY 21 MK Realty	Co-op for sale	440000	2	1	978	1350 Ocean Pkwy Apt 5G	Brooklyn, NY 11215
	Brokered by Engel & Volkers Americas	Co-op for sale	375000	2	1	850	800 Grand Concourse Apt 2JS	Bronx, NY 10458
	Brokered by Re/Max Edge	Townhouse for sale	689000	3	2	1162	456 Van Name Ave	Staten Island, NY 10314
	Brokered by COMPASS	Co-op for sale	259000	3	1	2184	34-41 85th St Unit 1D	Jackson Heights
	Brokered by Jamie & Connie Real Estate Grp	Co-op for sale	430000	2	2	2184	91-15 Lamont Ave Unit 6D	Elmhurst, NY 11376
	Brokered by Corcoran Chelsea/Flatiron	Co-op for sale	895000	3	1	2184	61 Jane St Apt 6N	New York, NY 10014
	Brokered by Awaye Realty	Condo for sale	549000	2	2	1000	4654 Amboy Rd Unit 2B	Staten Island, NY 10314
	Brokered by Realty Executives Today	Townhouse for sale	975000	3	2	1734	28-31 Hobart St	Woodside, NY 11377
	Brokered by Dorsa Group Realty	Co-op for sale	199000	3	1	325	9430 Ridge Blvd Apt 6D	Brooklyn, NY 11215
	Brokered by Coldwell Banker Realty	Co-op for sale	350000	1	1	700	5800 Arlington Ave Apt 21A	Bronx, NY 10472
	Brokered by Keller Williams Rlty Landmark	Condo for sale	599000	2	2	974	92-29 Queens Blvd Unit 3H	Rego Park, NY 11375


# INSIGHT 2

Calculating the average price of houses based on the type of house.

```
SELECT TYPE, AVG(PRICE)
AS AVG_Price
FROM nyhd
GROUP BY TYPE;
```

This query returns the average price of houses based on type from table 'nyhd'. It provides insight into the price variation of different types of houses.

```
3
4  -- Calculating the average price of houses based on the type of house.
5 • SELECT TYPE, AVG(PRICE) AS AVG_Price
6 FROM nyhd
7 GROUP BY TYPE;
8
9
```

Result Grid   Filter Rows:  Export:  Wrap Cell Content: 

	TYPE	AVG_Price
▶	Condo for sale	2630710.0774
	House for sale	3684215.5208
	Townhouse for sale	6365924.5485
	Co-op for sale	1100417.6966
	Multi-family home for sale	1680427.6699
	For sale	1954535.9500
	Contingent	882571.6591
	Land for sale	1073021.3878
	Foreclosure	1343010.3571
	Pending	1340867.2469
	Coming Soon	1172000.0000
	Mobile house for sale	1288000.0000
	Condop for sale	998600.0000

# INSIGHT 3

Finding the average price of houses based on the number of bedrooms.

```
SELECT BEDS, AVG(PRICE)
AS AVG_Price
FROM nyhd
GROUP BY BEDS;
```

This query returns the average price of houses based on the number of bedrooms. It provides insight into the price variation of houses according to capacity.

```
8
9  -- Finding the average price of houses based on the number of bedrooms.
10 • SELECT BEDS, AVG(PRICE) AS AVG_Price
11 FROM nyhd
12 GROUP BY BEDS;
13
```

	BEDS	AVG_Price
▶	2	1046006.2653
	7	27174496.6476
	4	2653452.4632
	3	1462132.5275
	5	4150147.7417
	8	5443654.4048
	1	533782.1573
	6	3337153.7528
	12	2998478.1304
	10	5539555.4286
	11	5129838.8000
	9	2080871.7436
	15	2137777.4000
	14	1650000.0000
	16	1993500.0000
	20	5698000.0000
	35	4380000.0000

Result 13 ×



# INSIGHT 4

Calculating the average price of houses in each locality.

```
SELECT LOCALITY,  
AVG(PRICE) AS AVG_Price  
FROM nyhd  
GROUP BY LOCALITY  
ORDER BY AVG_Price DESC;
```

This query returns the average price of houses based on locality. It provides insight into the price variation of houses in different localities.

```
13  
14 -- Calculating the average price of houses in each locality.  
15 • SELECT LOCALITY, AVG(PRICE) AS AVG_Price  
16 FROM nyhd  
17 GROUP BY LOCALITY  
18 ORDER BY AVG_Price DESC;  
19  
--
```

Result Grid   Filter Rows:  Export:  Wrap Cell Content: 

	LOCALITY	AVG_Price
▶	New York	3190146.4978
	New York County	2579619.2298
	Brooklyn	1426166.6667
	United States	1327848.3243
	Kings County	864643.5065
	Flatbush	650000.0000
	Queens	517333.3333
	Richmond County	447581.9492
	Queens County	443008.5422
	Bronx County	337656.5385
	The Bronx	330600.0000

# INSIGHT 5

Finding the average price per square foot of properties in each administrative area level 2.

```
SELECT
ADMINISTRATIVE_AREA_LEVEL_2, AVG(PRICE/PROPERTYSQFT)
AS AVG_Price_per_sqft
FROM nyhd
GROUP BY
ADMINISTRATIVE_AREA_LEVEL_2;
```

This query returns the average price per square foot of properties based on each administrative area level 2. It provides insight into the price variation per square foot depending on the administrative area level 2 of houses.

```
19
20  -- Finding the average price per square foot of properties in each administrative area level 2.
21 • SELECT ADMINISTRATIVE_AREA_LEVEL_2, AVG(PRICE/PROPERTYSQFT) AS AVG_Price_per_sqft
22 FROM nyhd
23 GROUP BY ADMINISTRATIVE_AREA_LEVEL_2;
24
25
--
```

ADMINISTRATIVE_AREA_LEVEL_2	AVG_Price_per_sqft
New York County	1821.18382381
United States	848.94657271
New York	790.52400504
Bronx County	271.32028000
11214	632.15938750
10301	416.16670000
10309	461.04890000
10303	509.35370000
11234	315.12610000
11414	91.11720000
10310	367.15485000
10003	1594.70670000
11417	728.02200000
10304	1325.53610000
Kings County	986.39450000
10463	410.00000000
Queens County	347.94478333

Result 18 x

# INSIGHT 6

Calculate the five states with highest average price of houses.

```
SELECT
SUBSTRING_INDEX(STATE,',',1),
AVG(PRICE) AS AVG_Price
FROM nyhd
GROUP BY 1
ORDER BY 2 DESC
LIMIT 5;
```

This query returns the 5 states with highest average price of houses. It provides insight into the states with most expensive houses.

```
24
25  -- Calculate the five states with highest average price of houses.
26 • SELECT SUBSTRING_INDEX(STATE,',',1), AVG(PRICE) AS AVG_Price
27 FROM nyhd
28 GROUP BY 1
29 ORDER BY 2 DESC
30 LIMIT 5;
31
32
33
```

Result Grid			Filter Rows:	Export:	Wrap Cell Content:	Fetch rows:
	SUBSTRING_INDEX(STATE,',',1)	AVG_Price				
▶	New York	7174444.2451				
	Manhattan	3374570.2620				
	Brooklyn Heights	3000000.0000				
	Canarsie	2999950.0000				
	Malba	2966296.0000				

# INSIGHT 7

Calculate the five states with lowest average price of houses.

```
SELECT
SUBSTRING_INDEX(STATE,',',1),
AVG(PRICE) AS AVG_Price
FROM nyhd
GROUP BY 1
ORDER BY 2
LIMIT 5;
```

This query returns the 5 states with lowest average price of houses. It provides insight into the states with most affordable houses.

```
31
32  -- Calculate the five states with lowest average price of houses.
33 • SELECT SUBSTRING_INDEX(STATE,',',1), AVG(PRICE) AS AVG_Price
34 FROM nyhd
35 GROUP BY 1
36 ORDER BY 2
37 LIMIT 5;
38
39
```

Result Grid		Filter Rows:	Export:	Wrap Cell Content:	Fetch rows:
	SUBSTRING_INDEX(STATE,',',1)	AVG_Price			
►	Bronx Ny	150000.0000			
	Brighton Beach	250000.0000			
	Kew Gardens Hills	302666.6667			
	New Hyde Park	325000.0000			
	Kensington	386333.3333			



# INSIGHT 8

Determining the top 5 most expensive houses in the dataset.

```
SELECT * FROM nyhd
ORDER BY PRICE DESC
LIMIT 5;
```

This query returns the details of 5 houses with highest prices. It provides insight into the most expensive houses in the dataset

38

39 -- Determining the top 5 most expensive houses in the dataset.

40 • SELECT \* FROM nyhd

41 ORDER BY PRICE DESC

42 LIMIT 5;

43

44

45

Result Grid

Filter Rows:

Export:

Wrap Cell Content:

Fetch rows:

	BROKERTITLE	TYPE	PRICE	BEDS	BATH	PROPERTYSQFT	ADDRESS	STATE
▶	Brokered by ANNE LOPA REAL ESTATE	House for sale	2147483647	7	6	10000	6659-6675 Amboy Rd	New York,
	Brokered by Serhant	Condo for sale	195000000	7	10	17545	Central Park Tower Penthouse-217 W 57th New...	New York,
	Brokered by Sotheby's International Realty - Ea...	Townhouse for sale	65000000	3	2.373860858	15200	4 E 79th St	New York,
	Brokered by COMPASS	Co-op for sale	60000000	8	8	2184	960 5th Ave Unit 12	Manhattan
	Brokered by Douglas Elliman - 575 Madison Ave	House for sale	56000000	11	10	24000	9 W 54th St	New York,

# INSIGHT 9

Identifying the brokers with listings in the most expensive localities.

```
SELECT BROKERTITLE,  
LOCALITY, MAX(PRICE) AS  
Max_Price  
FROM nyhd  
GROUP BY BROKERTITLE,  
LOCALITY  
LIMIT 10;
```

This query returns the maximum price of houses based on locality and broker. It shows the brokers with listings in the most expensive localities.

```
43  
44 -- Identifying the brokers with listings in the most expensive localities.  
45 • SELECT BROKERTITLE, LOCALITY, MAX(PRICE) AS Max_Price  
46 FROM nyhd  
47 GROUP BY BROKERTITLE, LOCALITY  
48 LIMIT 10;  
49  
50
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content: | Fetch rows:

	BROKERTITLE	LOCALITY	Max_Price
▶	Brokered by Douglas Elliman -111 Fifth Ave	New York	16995000
	Brokered by Serhant	New York	195000000
	Brokered by Sowae Corp	New York	699000
	Brokered by COMPASS	New York	39995000
	Brokered by Sotheby's International Realty - Ea...	New York	65000000
	Brokered by Douglas Elliman - 575 Madison Ave	New York County	26995000
	Brokered by Connie Profaci Realty	New York	16800000
	Brokered by Pantiga Group Inc.	The Bronx	265000
	Brokered by CENTURY 21 MK Realty	Kings County	699000
	Brokered by Engel & Volkers Americas	Bronx County	375000

Result 24 x

# INSIGHT 10

Identifying the broker with the highest number of listed houses.

```
SELECT BROKERTITLE,  
COUNT(*) AS Listings_Count  
FROM nyhd  
GROUP BY BROKERTITLE  
ORDER BY Listings_Count  
DESC  
LIMIT 5;
```

This query returns the 5 brokers with the highest count of house. It shows the brokers with the highest number of listed houses.

```
49  
50  -- Identifying the broker with the highest number of listed houses.  
51 • SELECT BROKERTITLE, COUNT(*) AS Listings_Count  
52     FROM nyhd  
53     GROUP BY BROKERTITLE  
54     ORDER BY Listings_Count DESC  
55     LIMIT 5;  
56
```

Result Grid		Filter Rows:	Export:	Wrap Cell Content:	Fetch rows:
	BROKERTITLE	Listings_Count			
►	Brokered by COMPASS	457			
	Brokered by Douglas Elliman - 575 Madison Ave	110			
	Brokered by Exp Realty	95			
	Brokered by Brown Harris Stevens	93			
	Brokered by Corcoran East Side	91			





# INSIGHT 11

Counting the number houses based on each type.

```
SELECT TYPE, COUNT(*) AS
Frequency
FROM nyhd
GROUP BY TYPE
ORDER BY Frequency DESC;
```

This query returns the number houses based on each type. It shows the count of each type of houses available in the market.

```
56
57  -- Counting the houses based on each type.
58 • SELECT TYPE, COUNT(*) AS Frequency
59    FROM nyhd
60    GROUP BY TYPE
61    ORDER BY Frequency DESC;
62
63
```

Result Grid |   Filter Rows:  | Export:  | Wrap Cell Content: 

	TYPE	Frequency
▶	Co-op for sale	1450
	House for sale	1012
	Condo for sale	891
	Multi-family home for sale	727
	Townhouse for sale	299
	Pending	243
	Contingent	88
	Land for sale	49
	For sale	20
	Foreclosure	14
	Condop for sale	5
	Coming Soon	2
	Mobile house for sale	1

Result 33 x



# INSIGHT 12

Determining the most common street names in the dataset.

```
SELECT STREET_NAME,  
COUNT(*) AS house_count  
FROM nyhd  
GROUP BY STREET_NAME  
ORDER BY house_count  
DESC  
LIMIT 5;
```

This query returns the 5 street names with highest number of houses. It shows the most common street names with maximum number of houses.

```
62  
63 -- Determining the most common street names in the dataset.  
64 • SELECT STREET_NAME, COUNT(*) AS house_count  
65 FROM nyhd  
66 GROUP BY STREET_NAME  
67 ORDER BY house_count DESC  
68 LIMIT 5;  
69  
70  
71
```

Result Grid	Filter Rows:	Export:	Wrap Cell Content:	Fetch rows:
	STREET_NAME	house_count		
►	Manhattan	979		
	Brooklyn	727		
	Queens	684		
	Staten Island	480		
	The Bronx	310		

# INSIGHT 13

Finding the average number of bedrooms and bathrooms in houses.

```
SELECT TYPE,  
ROUND(AVG(BEDS)) AS  
AVG_Bedrooms,  
ROUND(AVG(BATH)) AS  
AVG_Bathrooms  
FROM nyhd  
GROUP BY 1;
```

This query returns the average number of beds and baths based on the type of houses. It shows the variation in capacity of houses depending on type.

```
69  
70 -- Finding the average number of bedrooms and bathrooms in houses.  
71 • SELECT TYPE, ROUND(AVG(BEDS)) AS AVG_Bedrooms, ROUND(AVG(BATH)) AS AVG_Bathrooms  
72 FROM nyhd  
73 GROUP BY 1;  
74  
75  
76
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content: |

	TYPE	AVG_Bedrooms	AVG_Bathrooms
▶	Condo for sale	2	2
	House for sale	4	3
	Townhouse for sale	5	4
	Co-op for sale	2	1
	Multi-family home for sale	6	4
	For sale	3	2
	Contingent	3	2
	Land for sale	3	2
	Foreclosure	4	3
	Pending	3	2
	Coming Soon	5	3
	Mobile house for sale	6	3
	Condon for sale	2	1

Result 44 x

# INSIGHT 14

Calculating the total number of houses listed in each locality.

```
SELECT LOCALITY, COUNT(*)  
AS House_Listings  
FROM nyhd  
GROUP BY LOCALITY;
```

This query returns the number houses based on locality. It shows the count of houses available in each locality.

```
74  
75 -- Calculating the total number of houses listed in each locality.  
76 • SELECT LOCALITY, COUNT(*) AS House_Listings  
77 FROM nyhd  
78 GROUP BY LOCALITY;  
79  
80  
81
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content: |

	LOCALITY	House_Listings
▶	New York	2505
	New York County	979
	The Bronx	5
	Kings County	464
	Bronx County	182
	Queens County	557
	Richmond County	59
	United States	37
	Brooklyn	6
	Queens	6
	Flatbush	1

# INSIGHT 15

Identifying the brokers who have listings in more than 25 states.

```
SELECT BROKERTITLE,  
COUNT(DISTINCT STATE) AS  
States_Listed_In  
FROM nyhd  
GROUP BY BROKERTITLE  
HAVING States_Listed_In > 25;
```

This query returns the brokers title who has listings in more than 25 states. It provides insight on the brokers who deals on a large scale.

```
79  
80 -- Identifying the brokers who have listings in multiple states.  
81 • SELECT BROKERTITLE, COUNT(DISTINCT STATE) AS States_Listed_In  
82 FROM nyhd  
83 GROUP BY BROKERTITLE  
84 HAVING States_Listed_In > 25;  
85
```

Result Grid		Filter Rows:	Export:	Wrap Cell Content:
BROKERTITLE	States_Listed_In			
Brokered by Brown Harris Stevens	42			
Brokered by COMPASS	99			
Brokered by Corcoran East Side	28			
Brokered by Corcoran Park Slope	27			
Brokered by Douglas Elliman - 575 Madison Ave	35			
Brokered by EXP Realty	52			
Brokered by Keller Williams NYC	34			
Brokered by KELLER WILLIAMS REALTY LANDM...	27			
Brokered by RE MAX Edge	26			
Brokered by Serhant	29			
Brokered by Sowae Corp	30			
Brokered by Winzone Realty Inc	35			
NoBroker	29			



# INSIGHT 16

Identifying the types and total number of houses in New York state.

```
SELECT TYPE, COUNT(*) as  
house_count  
FROM nyhd  
WHERE STATE LIKE "New  
York%"  
GROUP BY 1;
```

This query returns the types and number of houses in New York state. It provides insight into the type and count of houses available in New York state.

```
87  
88 -- Identifying the types and total number of houses in New York state.  
89 • SELECT TYPE, COUNT(*) as house_count  
90 FROM nyhd  
91 WHERE STATE LIKE "New York%"  
92 GROUP BY 1;  
93
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

	TYPE	house_count
▶	Condo for sale	277
	Townhouse for sale	78
	Co-op for sale	390
	For sale	14
	House for sale	51
	Pending	29
	Foreclosure	2
	Multi-family home for sale	20
	Land for sale	1
	Condop for sale	4
	Contingent	12