**SEATTLE AIRBNB Activity Analysis and Visualization - Data from Kaggle**

1. Data cleaning & tranformations :

```
UPDATE airbnb.calendar
SET price = REPLACE(REPLACE(price, '$', ''), '.00', '');
SET price = COALESCE(price, 0);
```

Change calendar.price data type to Integer

2. Analyze listing prices across different neighborhoods

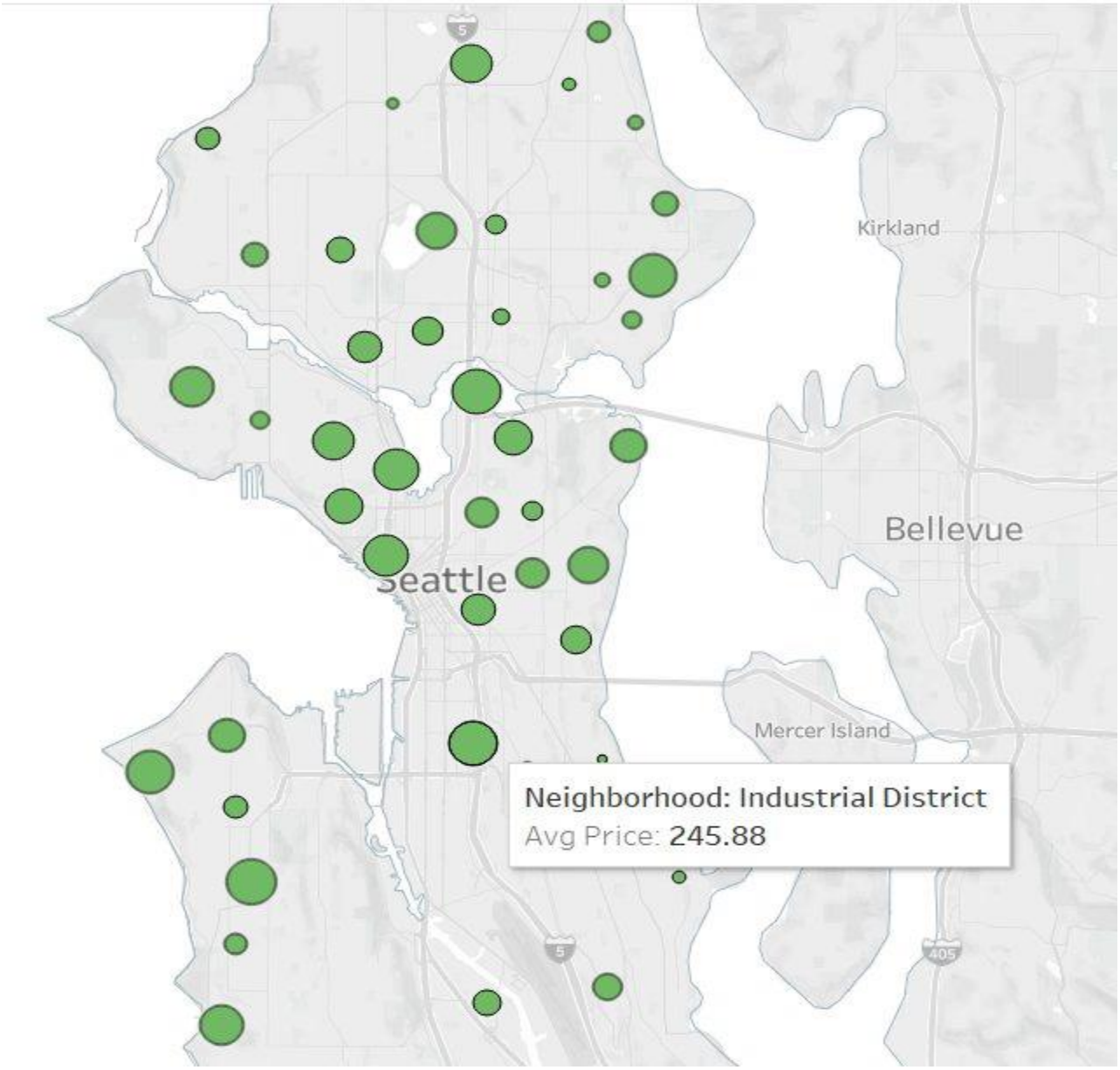
```
SELECT l.neighbourhood, ROUND(AVG(c.price),2) as avg_price
FROM calendar c
JOIN listings l ON c.listing_id = l.id
WHERE c.available = 't' AND c.price IS NOT NULL
GROUP BY l.neighbourhood
ORDER BY avg_price DESC;
```

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

| neighbourhood | avg_price |
|---|---|
| Portage Bay | 247.72 |
| Industrial District | 245.88 |
| Windermere | 227.52 |
| Alki | 226.41 |
| Westlake | 225.34 |
| Central Business District | 213.58 |
| Belltown | 207.99 |
| Fauntleroy | 205.88 |
| Magnolia | 205.52 |
| Pike Place Market | 205.17 |
| Pike Market | 192.58 |
| South Lake Union | 186.29 |
| Pinehurst | 181.67 |
| Queen Anne | 181.05 |
| Madrona | 166.37 |
| Green Lake | 164.93 |
| Montlake | 163.14 |
| Lower Queen Anne | 158.27 |
| First Hill | 155.86 |
| North Admiral | 155.74 |
| Pioneer Square | 154.07 |
| Madison Park | 145.5 |

Result 3

3. Visualize this using Tableau



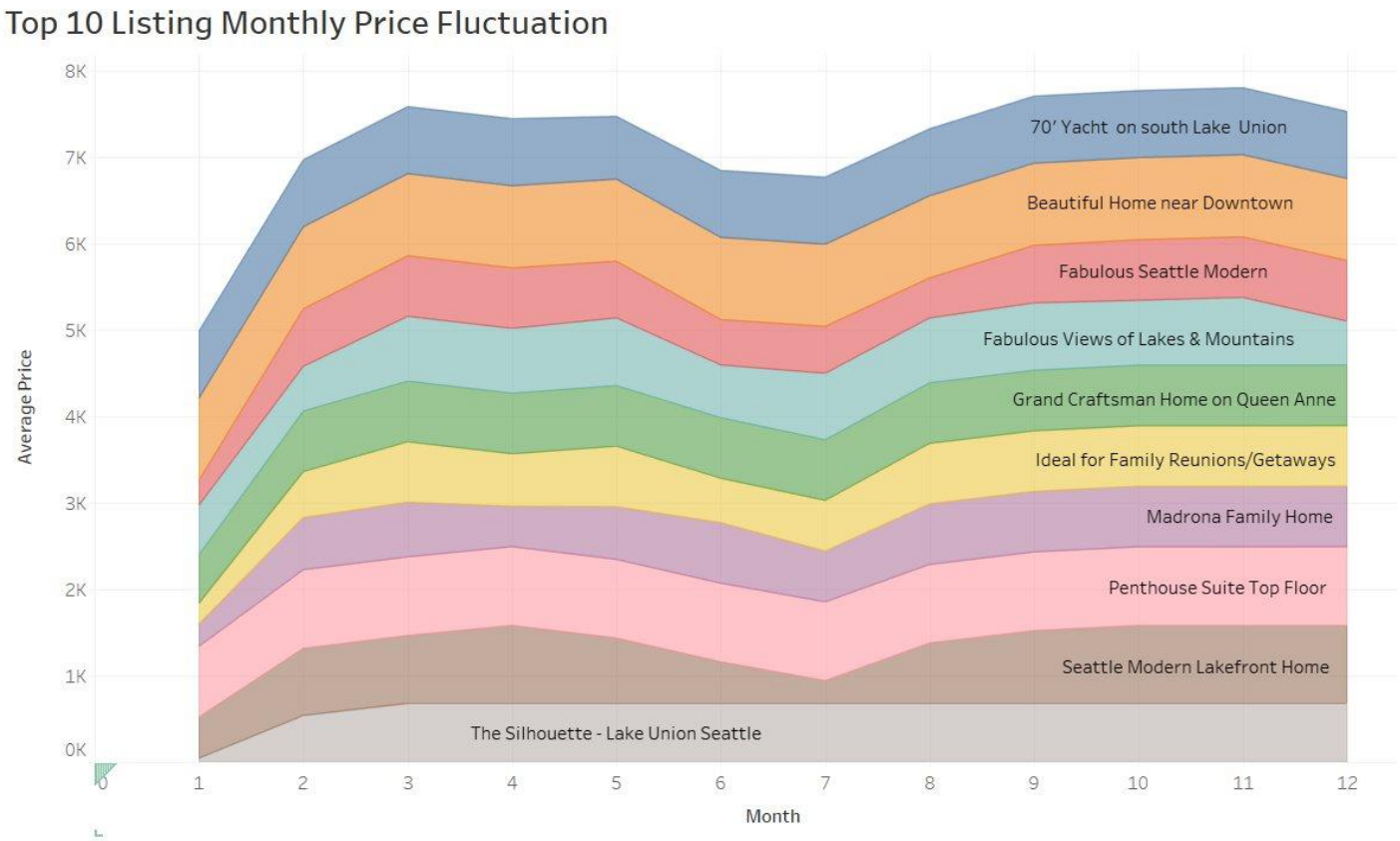
4. Query for calculating monthly price fluctuation

```
SELECT
    listings.name AS 'Listing Name',
    MONTH(calendar.date) AS 'Month',
    AVG(calendar.price) AS 'Average Price'
FROM
    calendar
JOIN
    listings ON calendar.listing_id = listings.id
GROUP BY
    listings.name, MONTH(calendar.date);
```

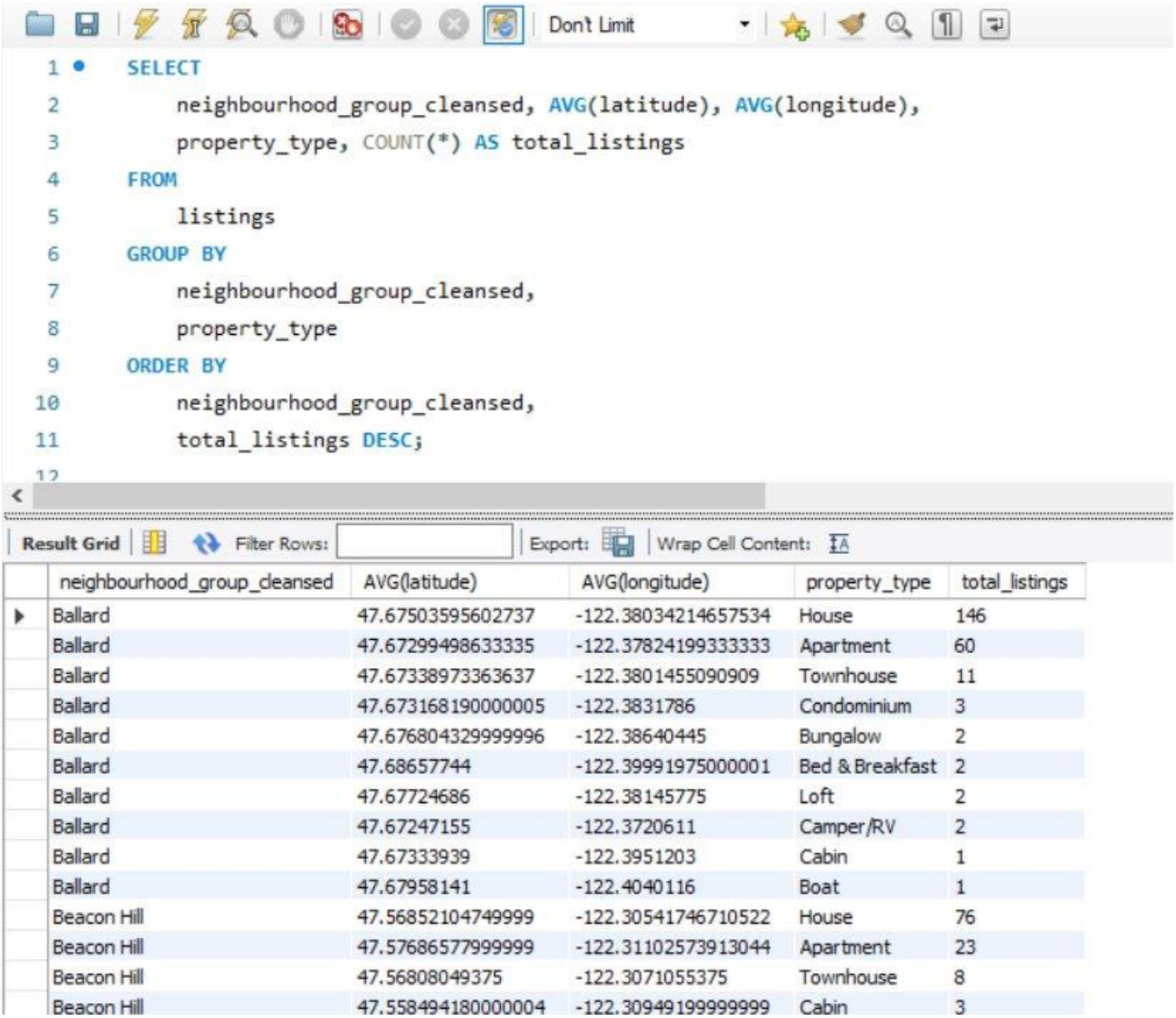
Result Grid | Filter Rows: | Export: | Wrap Cell Content: | Fetch rows:

| Listing Name | Month | Average Price |
|---|---|---|
| Stylish Queen Anne Apartment | 7 | 85 |
| Stylish Queen Anne Apartment | 8 | 85 |
| Stylish Queen Anne Apartment | 9 | 85 |
| Stylish Queen Anne Apartment | 10 | 85 |
| Stylish Queen Anne Apartment | 11 | 85 |
| Stylish Queen Anne Apartment | 12 | 85 |
| Bright & Airy Queen Anne Apa... | 1 | 82.13333333333334 |
| Bright & Airy Queen Anne Apa... | 2 | 0 |
| Bright & Airy Queen Anne Apa... | 3 | 4.967741935483871 |
| Bright & Airy Queen Anne Apa... | 4 | 154.56666666666666 |

5. Visualizing Monthly Price Fluctuation for Top 10 listing



6. Analyze property type each neighborhood



```
SELECT
    neighbourhood_group_cleansed, AVG(latitude), AVG(longitude),
    property_type, COUNT(*) AS total_listings
FROM
    listings
GROUP BY
    neighbourhood_group_cleansed,
    property_type
ORDER BY
    neighbourhood_group_cleansed,
    total_listings DESC;
```

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

| neighbourhood_group_cleansed | AVG(latitude) | AVG(longitude) | property_type | total_listings |
|---|---|---|---|---|
| Ballard | 47.67503595602737 | -122.38034214657534 | House | 146 |
| Ballard | 47.67299498633335 | -122.37824199333333 | Apartment | 60 |
| Ballard | 47.67338973363637 | -122.3801455090909 | Townhouse | 11 |
| Ballard | 47.673168190000005 | -122.3831786 | Condominium | 3 |
| Ballard | 47.676804329999996 | -122.38640445 | Bungalow | 2 |
| Ballard | 47.68657744 | -122.39991975000001 | Bed & Breakfast | 2 |
| Ballard | 47.67724686 | -122.38145775 | Loft | 2 |
| Ballard | 47.67247155 | -122.3720611 | Camper/RV | 2 |
| Ballard | 47.67333939 | -122.3951203 | Cabin | 1 |
| Ballard | 47.67958141 | -122.4040116 | Boat | 1 |
| Beacon Hill | 47.56852104749999 | -122.30541746710522 | House | 76 |
| Beacon Hill | 47.57686577999999 | -122.31102573913044 | Apartment | 23 |
| Beacon Hill | 47.56808049375 | -122.3071055375 | Townhouse | 8 |
| Beacon Hill | 47.558494180000004 | -122.30949199999999 | Cabin | 3 |

7. Visualize Property Type each Neighborhood with Tableau Dashboard