

Airbnb

As a Product Analyst on the Airbnb Stays team, you are investigating how listing amenities and pricing strategies impact hosts' supplemental income....

Question 1: What is the overall average nightly price for listings with either a 'pool' or 'ocean view' in July 2024? Consider only listings that have been booked at least once during this period.

```
SELECT
    AVG(nightly_price) AS avg_nightly_price
FROM fct_bookings fb
JOIN dim_listings dl ON fb.listing_id = dl.listing_id
WHERE fb.booking_date BETWEEN DATE '2024-07-01' AND DATE '2024-07-31'
    AND (
        dl.amenities ILIKE '%pool%'
        OR dl.amenities ILIKE '%ocean view%'
    );
```



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Question 2: For listings with no cleaning fee (ie. NULL values in the 'cleaning_fee' column), what is the average difference in nightly price compared to listings with a cleaning fee in July 2024?

```
WITH nofee AS (  
  SELECT AVG(nightly_price) AS avg_price_no_fee  
  FROM fct_bookings  
  WHERE cleaning_fee IS NULL  
    AND booking_date BETWEEN DATE '2024-07-01' AND DATE '2024-  
07-31'  
),  
withfee AS (  
  SELECT AVG(nightly_price) AS avg_price_with_fee  
  FROM fct_bookings  
  WHERE cleaning_fee IS NOT NULL  
    AND booking_date BETWEEN DATE '2024-07-01' AND DATE '2024-  
07-31'  
)  
SELECT  
  withfee.avg_price_with_fee,  
  nofee.avg_price_no_fee,  
  withfee.avg_price_with_fee - nofee.avg_price_no_fee AS price  
_difference  
FROM withfee, nofee;
```



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Question 3: Based on the top 50% of listings by earnings in July 2024, what percentage of these listings have 'ocean view' as an amenity? For this analysis, look at bookings that were made in July 2024.

```
WITH july AS (  
    SELECT  
        b.listing_id,  
        SUM((b.nightly_price + COALESCE(b.cleaning_fee, 0)) * b.bo  
oked_nights) AS total_earnings  
    FROM fct_bookings b  
    WHERE b.booking_date BETWEEN DATE '2024-07-01' AND DATE '202  
4-07-31'  
    GROUP BY b.listing_id  
) ,  
ranked AS (  
    SELECT *, ROW_NUMBER() OVER (ORDER BY total_earnings DESC) AS rank  
    FROM july  
) ,  
top50 AS (  
    SELECT listing_id  
    FROM ranked  
    WHERE rank <= (SELECT COUNT(*) / 2 FROM july)  
) ,  
ocean AS (  
    SELECT listing_id  
    FROM dim_listings  
    WHERE amenities ILIKE '%ocean view%'  
)  
SELECT  
    ROUND((COUNT(DISTINCT o.listing_id) * 100.0) / COUNT(DISTINC  
T t.listing_id), 2) AS percentage_ocean_view  
FROM top50 t  
LEFT JOIN ocean o ON t.listing_id = o.listing_id;
```

