

Apple

You are a Data Scientist on the Apple Music Personalization Team, tasked with evaluating the effectiveness of recommendation algorithms in engaging users with new music....

Question 1: How many unique users have added at least one recommended track to their playlists in October 2024?

```
WITH total AS (  
  SELECT  
    user_id,  
    SUM(is_recommended::INTEGER) AS total  
  FROM tracks_added  
  WHERE added_date BETWEEN DATE '2024-10-01' AND DATE '2024-10-31'  
  GROUP BY user_id  
)  
SELECT COUNT(DISTINCT user_id)  
FROM total  
WHERE total >= 1;
```



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Question 2: Among the users who added recommended tracks in October 2024, what is the average number of recommended tracks added to their playlists? Please round this to 1 decimal place for better readability.

```
WITH october AS (  
  SELECT  
    user_id,  
    SUM(is_recommended::INTEGER) AS total  
  FROM tracks_added  
  WHERE added_date BETWEEN DATE '2024-10-01' AND DATE '2024-10-31'  
  AND is_recommended = TRUE  
  GROUP BY user_id  
)  
SELECT ROUND(SUM(total) * 1.0 / COUNT(*), 1)  
FROM october;
```



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Question 3: Can you give us the name(s) of users who added a non-recommended track to their playlist on October 2nd, 2024?

```
WITH give AS (  
  SELECT user_id  
  FROM tracks_added  
  WHERE added_date = DATE '2024-10-02'  
        AND is_recommended = FALSE  
)  
SELECT user_name  
FROM users  
WHERE user_id IN (SELECT user_id FROM give);
```

