

## SECTION 6: AI Tools & LLM

### Option A: Prompt Engineering

The tool that I have used is ChatGPT for which I have prompted the following

```
SELECT Artist.Name AS Artist,
       Album.Title AS Album,
       SUM(InvoiceLine.Quantity) AS TotalSold
FROM Artist
JOIN Album ON Artist.ArtistId = Album.ArtistId
JOIN Track ON Album.AlbumId = Track.AlbumId
JOIN InvoiceLine ON Track.TrackId = InvoiceLine.TrackId
GROUP BY Album.AlbumId
ORDER BY Artist.Name, TotalSold DESC;
```

I am solving an SQL problem,

This problem is from the Chinook database and I am using SQLite Online for the same.

This query is not returning only one artist for their most sold album

Please help me modify this query

#### Response:

You're close! The issue with your current query is that it returns all albums with their total sold count, grouped by album and artist — but you only want the most sold album per artist.

To fix this, you'll need to:

1. Compute total sales per album as a subquery.
2. Then use a window function (ROW\_NUMBER() or RANK()) to rank the albums per artist.
3. Finally, filter to keep only the top-ranked (most sold) album for each artist.

However, SQLite only supports window functions from version 3.25 onwards. If you're using a modern SQLite version (like on SQLite Online), the following should work:

```
WITH AlbumSales AS (
  SELECT
    ar.ArtistId,
    ar.Name AS Artist,
    al.Title AS Album,
    SUM(il.Quantity) AS TotalSold,
    ROW_NUMBER() OVER (
      PARTITION BY ar.ArtistId
      ORDER BY SUM(il.Quantity) DESC
    ) AS rn
  FROM Artist ar
  JOIN Album al ON ar.ArtistId = al.ArtistId
  JOIN Track t ON al.AlbumId = t.AlbumId
```

```
JOIN InvoiceLine il ON t.TrackId = il.TrackId
GROUP BY ar.ArtistId, ar.Name, al.AlbumId, al.Title
)
```

```
SELECT Artist, Album, TotalSold
FROM AlbumSales
WHERE rn = 1
ORDER BY TotalSold DESC;
```

### **What this gives:**

- Exactly **one album per artist**.
- The **top-selling album** by total units sold.
- Ordered by total sales across all artists (optional).

Let me know if you want it sorted alphabetically instead, or adapted for older SQL engines that don't support ROW\_NUMBER().

### **Understandings:**

The AI helped me to make sure that there is only one artist for that album i.e. it created distinctiveness to the query.

I just modified the entire logic to make sure that not all albums are present. Only the ones that were sold more were to be shown.