**🔹 Example: Using Aggregate Without GROUP BY**

**❌ Incorrect SQL Query:**

sql

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SELECT Author, COUNT(\*) FROM Books;

Assume the Books table contains multiple books per author.

**❗ Step 1: Run the Query**

When you run this in SQL Server, you get:

pgsql

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Msg 8120, Level 16, State 1, Line 1

Column 'Books.Author' is invalid in the select list because it is not contained in either an aggregate function or the GROUP BY clause.

**✅ Step-by-Step Fix**

**🔸 Step 2: Understand the Error Message**

You are **mixing an aggregate function** (COUNT(\*)) with a **non-aggregated column** (Author), but didn’t group the results by Author.

SQL Server doesn’t know how to handle multiple authors unless you **tell it how to group the rows**.

**🔸 Step 3: Add the Correct GROUP BY Clause**

To get the number of books per author, use:

sql

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SELECT Author, COUNT(\*) AS BookCount

FROM Books

GROUP BY Author;

Now:

* Author is in the GROUP BY
* COUNT(\*) is the aggregate applied per group (per author)

**🔸 Step 4: Run the Corrected Query**

This will output something like:

| **Author** | **BookCount** |
| --- | --- |
| J.K. Rowling | 7 |
| George Orwell | 3 |

**🧠 Summary**

| **Problem** | **Fix** |
| --- | --- |
| Using aggregate with non-aggregated column | Add a GROUP BY clause including the column |
| Error Msg 8120 | Group by the non-aggregated columns |

**✅ Correct:**

sql

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SELECT Author, COUNT(\*) FROM Books GROUP BY Author;

**❌ Incorrect:**

sql

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SELECT Author, COUNT(\*) FROM Books; -- Missing GROUP BY

Would you like a practice example to fix, or want to go through one more advanced case?