

SQL GROUP BY

Useful with aggregate functions

Divides rows into groups before performing an aggregation on each group

Returns result set with 1 row per group

```
SELECT
    column_1,
    column_2,
    ...,
    aggregate_function(column_3)
FROM
    table_name
GROUP BY
    column_1,
    column_2,
    ...;
```

GROUP BY - Syntax

Syntax Rules:

Must come after FROM and WHERE clauses

Columns to group by must also appear in the SELECT list
e.g. column_1, column_2

```
SELECT
    column_1,
    column_2,
    ...,
    aggregate_function(column_3)
FROM
    table_name
GROUP BY
    column_1,
    column_2,
    ...;
```

GROUP BY - Example

Count number of books per genre

	id [PK] integer	title text	author text	genre text	year integer
1	1	Frankenstein	Mary Shelley	Novel	1818
2	2	The Great Gatsby	F. Scott Fitzgerald	Novel	1925
3	3	Big Fish	Daniel Wallace	Magical Realism	1998
4	4	Don Quixote	Miguel de Cervantes	Novel	1605



Group 1: Novel; 3 books

	id [PK] integer	title text	author text	genre text	year integer
1	1	Frankenstein	Mary Shelley	Novel	1818
2	2	The Great Gatsby	F. Scott Fitzgerald	Novel	1925
3	4	Don Quixote	Miguel de Cervantes	Novel	1605

Group 2: Magical Realism; 1 book

	id [PK] integer	title text	author text	genre text	year integer
1	3	Big Fish	Daniel Wallace	Magical Realism	1998

GROUP BY - Example

Count number of books per genre

Return a single row for each group

	id [PK] integer	title text	author text	genre text	year integer
1	1	Frankenstein	Mary Shelley	Novel	1818
2	2	The Great Gatsby	F. Scott Fitzgerald	Novel	1925
3	3	Big Fish	Daniel Wallace	Magical Realism	1998
4	4	Don Quixote	Miguel de Cervantes	Novel	1605

```
SELECT genre, COUNT(*) AS book_count  
FROM books GROUP BY genre;
```



	genre text	book_count bigint
1	Novel	3
2	Magical Realism	1