Sorting results

INTERMEDIATE SQL

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Sorting results

ORDER BY

```
SELECT title, budget
FROM films
ORDER BY budget;
```

```
|title               |budget|
|--------------------|------|
|Tarnation           |218   |
|My Date with Drew   |1100  |
|A Plague So Pleasant|1400  |
|The Mongol King     |3250  |
...
```

```
SELECT title, budget
FROM films
ORDER BY title;
```

```
|title                     |budget  |
|--------------------------|--------|
|#Horror                   |1500000 |
|10 Cloverfield Lane       |15000000|
|10 Days in a Madhouse     |12000000|
|10 Things I Hate About You|16000000|
...
```

ASCending

```sql
SELECT title, budget
FROM films
ORDER BY budget ASC;
```

```
|title                |budget|
|--------------------|------|
|Tarnation            |218   |
|My Date with Drew    |1100  |
|A Plague So Pleasant|1400  |
|The Mongol King      |3250  |
...
```

DESCending

```sql
SELECT title, budget
FROM films
ORDER BY budget DESC;
```

```
|title                         |budget|
|------------------------------|------|
|Love and Death on Long Island |null  |
|The Chambermaid on the Titanic|null  |
|51 Birch Street               |null  |
...
```

```sql
SELECT title, budget
FROM films
WHERE budget IS NOT NULL
ORDER BY budget DESC;
```

```
|title                  |budget     |
|-----------------------|-----------|
|The Host               |12215500000|
|Lady Vengeance         |4200000000 |
...
```

Sorting fields

```sql
SELECT title
FROM films
ORDER BY release_year;
```

```
|title                                |
|-------------------------------------|
|Intolerance: Love's Struggle Throu...|
|Over the Hill to the Poorhouse       |
|The Big Parade                       |
|Metropolis                           |
...
```

```sql
SELECT title, release_year
FROM films
ORDER BY release_year;
```

```
|title                   |release_year|
|------------------------|------------|
|Intolerance: Love's S...|1916        |
|Over the Hill to the ...|1920        |
|The Big Parade          |1925        |
|Metropolis              |1927        |
...
```

ORDER BY multiple fields

- `ORDER BY field_one, field_two`

```
SELECT title, wins
FROM best_movies
ORDER BY wins DESC;
```

```
|title                         |wins|
|------------------------------|----|
|Lord of the Rings:Return of t...|11  |
|Titanic                       |11  |
|Ben-Hur                       |11  |
```

- Think of `field_two` as a tie-breaker

```
SELECT title, wins, imdb_score
FROM best_movies
ORDER BY wins DESC, imdb_score DESC;
```

```
|title                |wins|imdb_score|
|---------------------|----|----------|
|Lord of the Rings:...|11  |9         |
|Ben-Hur              |11  |8.1       |
|Titanic              |11  |7.9       |
```

Different orders

```sql
SELECT birthdate, name
FROM people
ORDER BY birthdate, name DESC;
```

```
|birthdate |name             |
|----------|-----------------|
|1990-01-01|Robert Brown     |
|1990-02-02|Anne Smith       |
|1991-05-14|Amy Miller       |
|1991-11-22|Adam Waters      |
...
```

Order of execution

```
-- Written code:
SELECT item
FROM coats
WHERE color = `yellow`
ORDER BY length
LIMIT 3;
```

```
-- Order of execution:
SELECT item
FROM coats
WHERE color = `yellow`
ORDER BY length
LIMIT 3;
```

Let's practice!

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Grouping data

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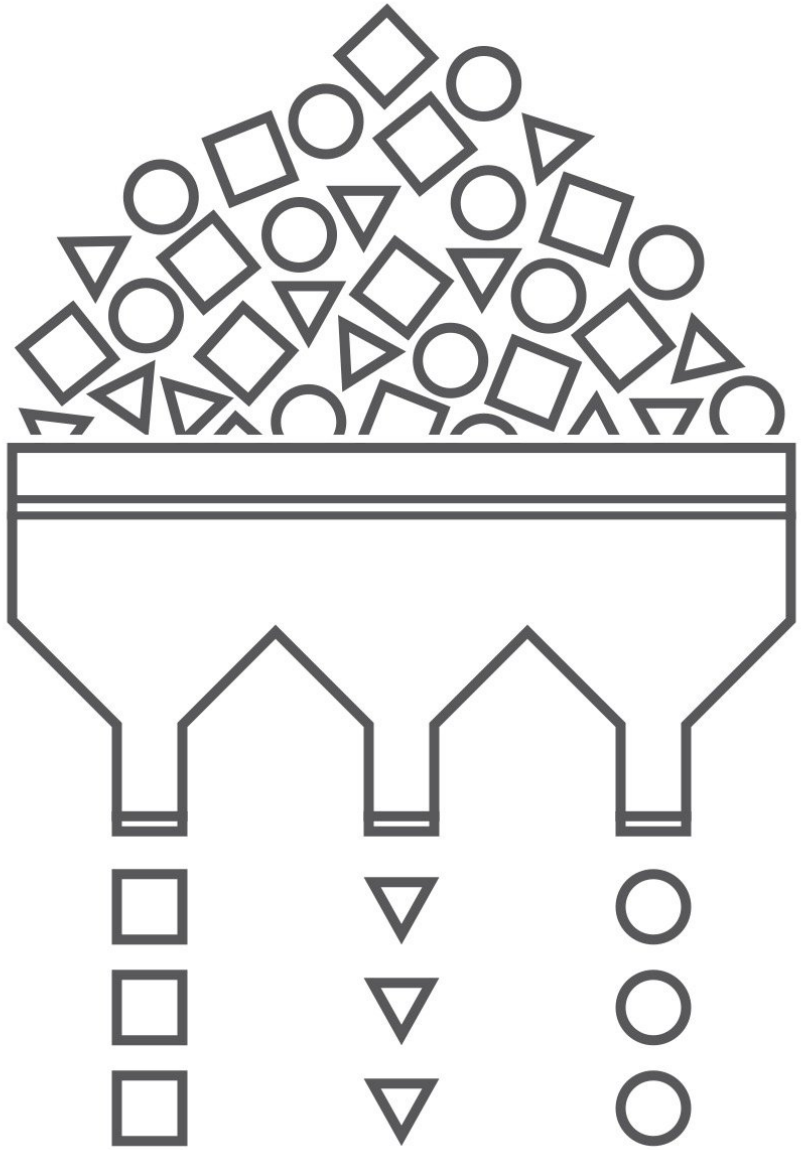
Grouping data



GROUP BY single fields

```
SELECT certification, COUNT(title) AS title_count
FROM films
GROUP BY certification;
```

```
|certification|title_count|
|-------------|-----------|
|Unrated      |62         |
|M            |5          |
|G            |112        |
|NC-17        |7          |
...
```

Error handling

```sql
SELECT certification, title
FROM films
GROUP BY certification;
```

```
column "films.title" must appear in the
GROUP BY clause or be used in an
aggregate function
LINE 1: SELECT certification, title
                              ^
```

```sql
SELECT
   certification,
   COUNT(title) AS count_title
FROM films
GROUP BY certification;
```

```
|certification|count_title|
|-------------|-----------|
|Unrated      |62         |
|M            |5          |
|G            |112        |
...
```

GROUP BY multiple fields

```sql
SELECT certification, language, COUNT(title) AS title_count
FROM films
GROUP BY certification, language;
```

```
|certification|language |title_count|
|-------------|---------|-----------|
|null         |null     |5          |
|Unrated      |Japanese |2          |
|R            |Norwegian|2          |
...
```

GROUP BY with ORDER BY

```sql
SELECT
       certification,
       COUNT(title) AS title_count
FROM films
GROUP BY certification;
```

```
|certification|title_count|
|-------------|-----------|
|Unrated      |62         |
|M            |5          |
|G            |112        |
...
```

```sql
SELECT
       certification,
       COUNT(title) AS title_count
FROM films
GROUP BY certification
ORDER BY title_count DESC;
```

```
|certification|title_count|
|-------------|-----------|
|R            |2118       |
|PG-13        |1462       |
...
```

Order of execution

```
-- Written code:
SELECT
       certification,
       COUNT(title) AS title_count
FROM films
GROUP BY certification
ORDER BY title_count DESC
LIMIT 3;
```

```
-- Order of execution:
SELECT
       certification,
       COUNT(title) AS title_count
FROM films
GROUP BY certification
ORDER BY title_count DESC
LIMIT 3;
```

Let's practice!

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Filtering grouped data

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SQL

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HAVING

```sql
SELECT
        release_year,
        COUNT(title) AS title_count
FROM films
GROUP BY release_year
WHERE COUNT(title) > 10;
```

```
syntax error at or near "WHERE"
LINE 4: WHERE COUNT(title) > 10;
        ^
```

```sql
SELECT
        release_year,
        COUNT(title) AS title_count
FROM films
GROUP BY release_year
HAVING COUNT(title) > 10;
```

```
|release_year|title_count|
|------------|-----------|
|1988        |31         |
|null        |42         |
|2008        |225        |
...
```

Order of execution

```
-- Written code:
SELECT
       certification,
       COUNT(title) AS title_count
FROM films
WHERE certification
       IN ('G', 'PG', 'PG-13')
GROUP BY certification
HAVING COUNT(title) > 500
ORDER BY title_count DESC
LIMIT 3;
```

```
-- Order of execution:
SELECT
       certification,
       COUNT(title) AS title_count
FROM films
WHERE certification
       IN ('G', 'PG', 'PG-13')
GROUP BY certification
HAVING COUNT(title) > 500
ORDER BY title_count DESC
LIMIT 3;
```

HAVING vs WHERE

- WHERE filters individual records, HAVING filters grouped records
- What films were released in the year 2000?

```
SELECT title
FROM films
WHERE release_year = 2000;
```

```
|title         |
|--------------|
|102 Dalmatians|
|28 Days       |
...
```

- In what years was the average film duration over two hours?

HAVING vs WHERE

- In what years was the average film duration over two hours?

```
SELECT release_year
FROM films
GROUP BY release_year
HAVING AVG(duration) > 120;
```

```
|release_year|
|------------|
|1954        |
|1959        |
...
```

Let's practice!

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Congratulations!

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SQL

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What you've learned

- Chapter 1: Selecting with `COUNT()` , `LIMIT`
- Chapter 2: Filtering with `WHERE` , `BETWEEN` , `AND` , `OR` , `LIKE` , `NOT LIKE` , `IN` , `%` , `_` , `IS NULL` , `IS NOT NULL`
- Chapter 3: `ROUND()` and aggregate functions
- Chapter 4: Sorting and grouping with `ORDER BY` , `DESC` , `GROUP BY` , `HAVING`
- Comparison operators
- Arithmetic

Skills

- Error handling
- Debugging
- Writing readable code
- Selecting data
- Querying data
- Filtering and summarizing data
- Sorting and grouping data

What's next?

- DataCamp SQL joining course
- DataCamp Project, Practice, Competitions
- Workspace

Congratulations!

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