Group Summary Statistics: Takeaways

Syntax

- Computing summary statistics by a unique value in a row:

```
SELECT SUM(Employed)
FROM recent_grads
GROUP BY Major_category;
```

- Filtering results after aggregation:

```
SELECT Major_category, AVG(Employed) / AVG(Total) AS share_employed
FROM recent_grads
GROUP BY Major_category
HAVING share_employed > 0.8;
```

- Rounding a column to two decimal places:

```
SELECT Major_category, ROUND(ShareWomen, 2) AS rounded_share_women
FROM recent_grads;
```

- Generating information about each column in a table:

```
PRAGMA TABLE_INFO(recent_grads);
```

- Converting, known as casting, a column to a float type:

```
SELECT CAST(Women as Float) / CAST(Total as Float)
FROM recent_grads;
```

Concepts

- The `GROUP BY` clause allows you to compute summary statistics by group.
- The `HAVING` clause filters on the virtual column that `GROUP BY` generates.
- `WHERE` filters results before the aggregation, whereas `HAVING` filters after aggregation.

- The `ROUND` function rounds the results to desired decimal places.
- `PRAGMA TABLE_INFO()` returns the type, along with other information for each column.
- The `CAST` function in SQL converts data from one data type to another. For example, we can use the `CAST` function to convert numeric data into character string data.

Resource

- PRAGMA TABLE_INFO
- Core functions of SQLite