This SQL query is composed of **multiple CTEs (Common Table Expressions)** chained with WITH, each building on the previous one to reach a final aggregated result. Here’s what each part does — clearly and precisely, but **without using examples**:

**1. competitor\_event\_counts**

This part counts how many medals each competitor received in each specific event.

* It selects competitor\_id and event\_id.
* It counts medal\_id values, ignoring any rows where there is no medal.
* It groups by both competitor\_id and event\_id, meaning one row per competitor–event pair.
* The result is a list of competitors, the events they took part in, and how many medals they won in each.

**2. competitor\_max**

This part finds the **highest** number of medals each competitor earned in any single event.

* For each competitor, it looks at the previous result (competitor\_event\_counts).
* It takes the maximum medals\_in\_event value for that competitor.
* The result is one row per competitor showing only their maximum medal count across all events.

**3. competitor\_top\_event**

This part identifies **which events** correspond to that maximum medal count.

* It joins the first and second CTEs (competitor\_event\_counts and competitor\_max).
* The join condition ensures:
  + The competitor IDs match.
  + The number of medals in that event equals that competitor’s maximum.
* If a competitor had the same maximum in multiple events, all those events are included.

**4. competitor\_with\_person**

This part connects competitors to their personal and games information.

* It selects identifiers from the games\_competitor table.
* The goal is to link a competitor to a person and the specific Olympic Games they participated in.
* This connection allows linking medal data to regions later.

**5. region\_medal\_totals**

This part aggregates medal counts by region.

* It joins the top-performing competitor–event data with the competitor–person–games link, then with regional data from person\_region.
* It sums up the medals associated with people from the same region.
* The result gives the total medals for each region, considering only the top event(s) per competitor.

**6. Final SELECT**

This retrieves the **region names** and their **total medals**, joining regional identifiers with the noc\_region table to get readable names.

* The data is ordered by total medals in descending order.
* The LIMIT 5 clause restricts the output to the top five regions.