

## SQL Exercise: Final Challenge - Corrected

Learn / Courses / Joining Data in SQL

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Daily XP 2365

Exercise

### Final challenge

You've made it to the final challenge problem! Get ready to tackle this step-by-step.

Your task is to determine the top 10 capital cities in Europe and the Americas by `city_perc`, a metric you'll calculate. `city_perc` is a percentage that calculates the "proper" population in a city as a percentage of the total population in the wider metro area, as follows:

```
city_proper_pop / metroarea_pop * 100
```

Do not use table aliasing in this exercise.

Instructions 100 XP

- From `cities`, select the city name, country code, proper population, and metro area population, as well as the field `city_perc`, which calculates the proper population as a percentage of metro area population for each city (using the formula provided).
- Filter city name with a subquery that selects `capital` cities from `countries` in `'Europe'` or continents with `'America'` at the end of their name.
- Exclude `NULL` values in `metroarea_pop`.
- Order by `city_perc` (descending) and return only the first 10 rows.

Take Hint (-30 XP)

query.sql

```
1 -- Select fields from cities
2 ---
3 -- Use subquery to filter city name
4 ---
5 -- Add filter condition such that metroarea_pop does not have null
  values
6 ---
7 -- Sort and limit the result
8 ---
```

Run Code Submit Answer

query result

currenciespopulationslanguagescitieseconomiescountries

No query executed yet...

Showing 0 out of 0 rows

Question: From 'cities', select the city name, country code, proper population, and metro area population, as well as the field 'city\_perc', which calculates the proper population as a percentage of metro area population for each city (using the formula provided). Filter city names with a subquery that selects capital cities from 'countries' in 'Europe' or continents with 'America' at the end of their name. Exclude NULL values in 'metroarea\_pop'. Order by 'city\_perc' (descending) and return only the first 10 rows.

Corrected Answer:  
SQL Query:

```
SELECT name, country_code, city_proper_pop, metroarea_pop,  
       (city_proper_pop / metroarea_pop) * 100 AS city_perc  
FROM cities  
WHERE name IN (  
    SELECT capital  
    FROM countries  
    WHERE continent = 'Europe' OR continent LIKE '%America'  
)  
AND metroarea_pop IS NOT NULL  
ORDER BY city_perc DESC  
LIMIT 10;
```

Explanation:

- The query selects 'name', 'country\_code', 'city\_proper\_pop', 'metroarea\_pop', and calculates 'city\_perc' as the percentage of the city proper population to metro area population.
- The subquery retrieves the names of capital cities from countries in 'Europe' or continents ending with 'America'.
- The main query filters out rows where 'metroarea\_pop' is NULL using 'AND metroarea\_pop IS NOT NULL'.
- The 'ORDER BY city\_perc DESC' clause sorts the results by 'city\_perc' in descending order, and 'LIMIT 10' restricts the output to the top 10 rows.