

# Homework 1 & 2 for DMDS exam project

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Database Management system: PostgreSQL.

## Chosen Database: Countries-States-Cities

(<https://www.kaggle.com/datasets/darshangada/countries-states-cities-database?select=csv>)

The database contains a collection of data providing detailed geographical information about cities, states, countries, continents, and sub continents, each one modeled as a table.

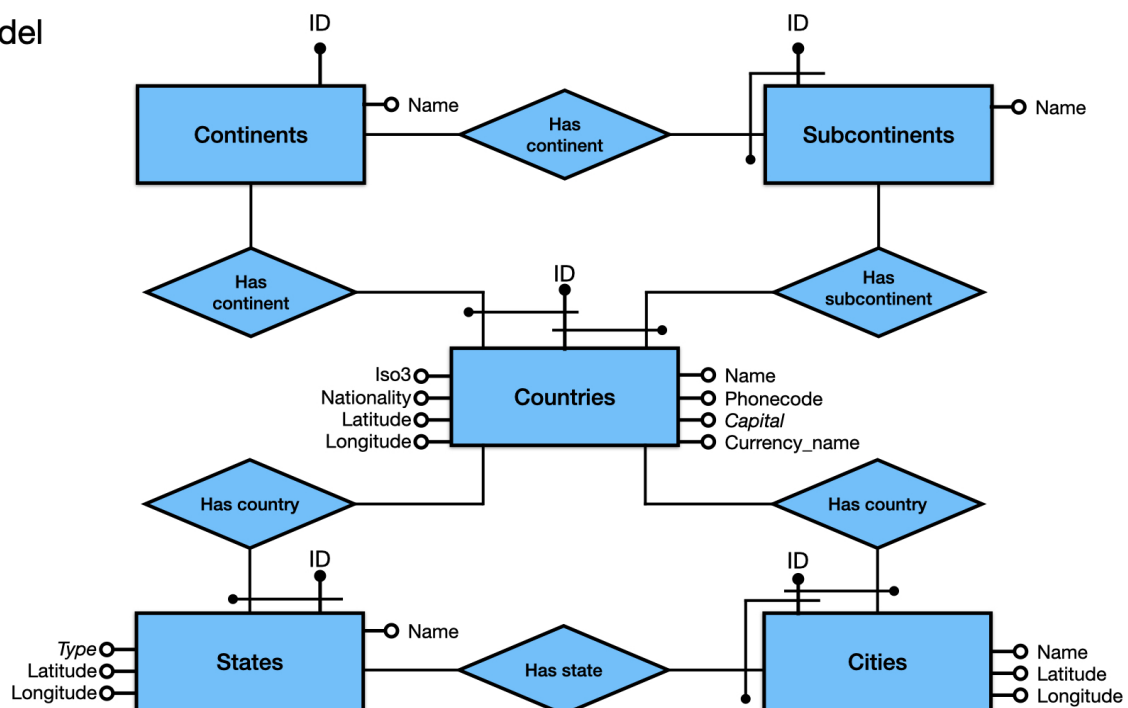
There are 155.935 entries in total, broken down as follows:

- Total Continents : 6
- Total Sub Continents : 22
- Total Countries : 250
- Total States/Regions/Municipalities/Provinces : 5,084
- Total Cities/Towns/Districts : 150,573

## Entity Relationship model

The following E-R model reports the structure and all the constraints of the database

### E-R Model



For each table, the attributes and the constraints are resumed:

- CONTINENTS(id, name)

- SUBCONTINENTS(**id**, name, continent\_id)
- COUNTRIES(**id**, name, iso3, phonecode, *capital*, currency\_name, *continent\_id*, *subcontinent\_id*, nationality, latitude, longitude)
- STATES(**id**, name, country\_id, *type*, latitude, longitude)
- CITIES(**id**, name, state\_id, country\_id, latitude, longitude)

N.B. black dotted/bold attributes are primary keys, italic attributes can assume NULL values.