

The relational schema of the Mondial database

Country: the countries (and similar areas) of the world with some data:

- name: the country name,
- code: the car code,
- capital: the name of the capital,
- province: the province where the capital belongs to,
- area: the total area,
- population: the population number.

Economy: economical information about the countries:

- country: the country code,
- GDP: gross domestic product (in million \$),
- agriculture: percentage of agriculture of the GDP,
- service: percentage of services of the GDP,
- industry: percentage of industry of the GDP,
- inflation: inflation rate (per annum),
- unemployment: unemployment rate.

Politics: political information about the countries:

- country: the country code,
- independence: date of independence (if independent),
- wasdependent: the political body where the area was dependent of; usually a country (but not always),
- dependent: the country code where the area belongs to,
- government: type of government.

Population: information about the population of the countries:

- country: the country code,
- population_growth: population growth rate (per annum),
- infant_mortality: infant mortality (per thousand).

Country pops: information about the population number of the countries in different years:

- country: the country code,
- population: number of inhabitants,
- year: in which year.

CountryLocalName: information about the local name of the country:

- country: the country code,
- localname: the local name, usually in a local alphabet (UTF-8).

Language: information about languages.

- name: name of the language,
- superlanguage: the language where it is a sublanguage of, if exists.

Spoken: information about the languages spoken in a country:

- country: the country code,
- language: name of the language,
- percentage: percentage of the language in this country.

Religion: information about the religions in a country:

- country: the country code,
- name: name of the religion,
- percentage: percentage of the language in this country.

EthnicGroup: information about the ethnic groups in a country:

- country: the country code,

name: name of the religion,
percentage: percentage of the language in this country.

borders: informations about neighboring countries. Note that in this relation, for every pair of neighboring countries (A,B), only one tuple is given – thus, the relation is *not* symmetrically stored:

country1: a country code,
country2: a country code,
length: length of the border between country1 and country2.

Continent: Information about continents:

name: name of the continent,
area: total area of the continent.

encompasses: information to which continents a country belongs:

country: the country code,
continent: the continent name,
percentage: percentage, how much of the area of a country belongs to the continent.

City: information about cities:

name: the name of the city,
country: the code of the country where it belongs to,
province: the name of the province where it belongs to,
population: population of the city,
elevation: the elevation (above sea level) of the city,
latitude: geographic latitude,
longitude: geographic longitude.

Citypops: information about the population number of the cities in different years:

city: the name of the city,
province: the name of the province,
country: the code of the country where it belongs to,
population: number of inhabitants,
year: in which year.

CityLocalName: information about the local name of the city:

city: the name of the city,
province: the name of the province,
country: the code of the country where it belongs to,
localname: the local name, usually in a local alphabet (UTF-8).

Province: information about administrative divisions:

name: the name of the administrative division,
country: the country code where it belongs to,
area: the total area of the province,
population: the population of the province,
capital: the name of the capital,
capprov: the name of the province where the capital belongs to,
note that *capprov* is not necessarily equal to *name*. E.g., the municipality of *Bogota (Colombia)* is a province of its own, and *Bogota* is also the capital of the surrounding province *Cundinamarca*.

Provpops: information about the population number of the provinces in different years:

province: the name of the province,
country: the code of the country where it belongs to,
population: number of inhabitants,
year: in which year.

ProvinceLocalName: information about the local name of the province:

province: the name of the province,
country: the code of the country where it belongs to,
localname: the local name, usually in a local alphabet (UTF-8).

Organization: information about political and economical organizations:

name: the full name of the organization,
abbreviation: its abbreviation,
city: the city where the headquarters are located,
country: the code of the country where the headquarters are located,
province: the name of the province where the headquarters are located,
established: date of establishment.

isMember: memberships in political and economical organizations:

organization: the abbreviation of the organization,
country: the code of the member country,
type: the type of membership.

Lake: information about lakes:

name: the name of the lake,
area: the total area of the lake,
depth: the depth of the lake,
elevation: the elevation (above sea level) of the lake,
river: the river that flows out of the lake (may be null),
type: the type of the lake, e.g., salt, caldera, ...,
coordinates: its geographical coordinates as (latitude, longitude).

Sea: information about seas:

name: the name of the sea,
depth: the maximal depth of the sea,
area: the total area of the sea.

River: information about rivers:

name: the name of the river,
length: the length of the river,
area: the size of its catchment area,
river: the river where it finally flows to,
lake: the lake where it finally flows to,
sea: the sea where it finally flows to
(note that at most one out of {river,lake,sea} can be non-null),
source: the coordinates of its source,
sourceElevation: the elevation (above sea level) of its source,
mountains: the mountains where its source is located,
estuary: the coordinates of its estuary,
estuaryElevation: the elevation (above sea level) of its estuary.

RiverThrough: information about rivers flowing through lakes:

river: the name of the river,
lake: the lake where it flows through.

Note that a rivers can flow through several lakes, but for every lake, only one river, can flow *through* it.

Mountain: information about mountains:

name: the name of the mountain,
mountains: the mountains where it belongs to,
elevation: the maximal elevation of the summit of the mountain,
type: the type of the mountain, e.g. volcanic, (active) volcano, ...,
coordinates: its geographical coordinates as (latitude, longitude).

Island: information about islands:

name: the name of the island,
islands: the group of islands where it belongs to,
area: the area of the island,
elevation: the maximal elevation of the island,
type: the type of the island, e.g. volcanic, coral, atoll, ...
coordinates: its geographical coordinates as (latitude, longitude).

Desert: information about deserts:

name: the name of the desert,
area: the total area of the desert,
coordinates: its geographical coordinates as (latitude, longitude).

geo_Mountain: geographical information about mountains:

mountain: the name of the mountain,
country: the country code where it is located,
province: the province of this country,

Note that for a country there can be several provinces where the mountain is located in.

Analogous for *geo_island*, *geo_desert*, *geo_river*, *geo_lake*, *geo_sea*. Analogously, there are also *geo_source* and *geo_estuary*.

mergesWith: information about neighboring seas. Note that in this relation, for every pair of neighboring seas (A,B), only one tuple is given – thus, the relation is *not* symmetrically stored:

sea1: a sea,
sea2: a sea.

located: information about cities located at rivers, lakes, and seas:

city: the name of the city,
country: the country code where the city belongs to,
province: the province where the city belongs to,
river: the river where it is located at,
lake: the lake where it is located at,
sea: the sea where it is located at.

Note that for a given city, there can be several lakes/seas/rivers where it is located at.

locatedOn: information about cities located in islands:

city: the name of the city,
country: the country code where the city belongs to,
province: the province where the city belongs to,
island: the island it is (maybe only partially) located on.

Note that for a given city, there can be several islands where it is located on.

islandIn: information the waters where the islands are located in:

island: the name of the island,
sea: the sea where the island is located in,
lake: the lake where the island is located in,
river: the river where the island is located in,

Note that an island can have coasts to several seas.

MountainOnIsland: information which mountains are located on islands:

mountain: the name of the mountain,
island: the name of the island.

RiverOnIsland: information which rivers are located on islands:

river: the name of the river,
island: the name of the island.

LakeOnIsland: information which lakes are located on islands:

lake: the name of the lake,
island: the name of the island.

Airport: information about airports:

iatacode: the IATA code of the airport,
name: the name of the airport,
country: the country code where the airport is located,
city: in case the airport is associated with a city, the name of the city,
province: the province where the city belongs to,
island: if it is located on an island, the name of this island,
latitude: geographic latitude,
longitude: geographic longitude,
elevation: the elevation (above sea level) of the airport,
gmtOffset: the GMT offset of the local time.

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