

In this lab, we will use the *world.json* dataset, which lists the countries of the world (as they were at the end of the last century).

Here is a description of the information contained in the documents. Not all countries necessarily have all fields filled in.

- **Code:** 3-letter country code
- **Name:** country name
- **Continent:** continent
- **Region:** region (part of a continent)
- **SurfaceArea:** surface area
- **IndepYear:** year of independence (if missing: the country depends on another)
- **Population:** total population
- **LifeExpectancy:** life expectancy
- **GNP:** GDP
- **GNPOld:** older GDP value
- **LocalName:** country name in the local language
- **GovernmentForm:** type of government
- **HeadOfState:** head of state
- **Code2:** 2-letter country code

Cities: array describing the known cities of the country

- **Name:** name of the city
- **District:** province/region
- **Population:** population of the city
- **Capital:** true if it is the capital

Languages: array of languages spoken in the country

- **Language:** language name
- **IsOfficial:** true if it is an official language (there may be several)
- **Percentage:** percentage of inhabitants speaking this language

To Do:

1. Determine the exact number of countries.
2. List the different continents.
3. List the information about France.
4. List the countries in the European continent with a population below 100,000 inhabitants.
5. List the independent countries in the Oceania continent.
6. Which continent has the largest surface area? (only one continent displayed at the end)
7. For each continent, give the number of countries, the total population, and as a bonus, the number of independent countries.
8. Give the total population of the cities in France.
9. Give the capital of France (only the city name and its population).
10. Which languages are spoken in more than 15 countries?
11. For each country, compute the number of cities (for countries with at least 100 cities), sorted in decreasing order of number of cities.
12. List the 10 most populated cities, along with their country, in decreasing order of population.
13. List the countries for which French is an official language.
14. List the 5 countries with the highest number of languages spoken.
15. List the countries for which the sum of the populations of their cities is greater than the population of the country.

(This is probably due to an error in the database.)