Learning Activity 2-02

Design the entity-relationship (E/R) diagram of a database of a geographic information system to consult data referring to localities, rivers and provinces of autonomous communities.

The following requirements are given:

• The database will have information on all the towns, all the provinces, all the autonomous communities and all the rivers in Spain.

• The autonomous communities are identified with three characters. They also have their name and the town that is their capital.

• The provinces are identified with a number. Their name and extension are also known from them.

• Each town belongs to a single province. The localities are identified with the province identifier and, for each locality, with a number from 1 onwards. Each town has its name and the number of inhabitants.

• For each river there is information on its name, description, length in kilometers, place of birth and mouth, the hydrographic basin to which it belongs (of which the name and an identifier must be saved), the localities. through which it passes and the distance from the source of the river to each town.

• A river passes through several localities, although rivers that do not pass through localities could be accepted. Although it is not very common, there may be locations through which two and even three or more rivers pass. There are towns through which rivers do not pass.