

## Practice Number 4.

1. (RDFS-Exercise) Write an ontology about geography: cities, countries, capitals, borders, states, and so on.
2. (RDFS-Exercise) Consider the classes of males and females. Name a relationship between them that should be included in an ontology.
3. (RDFS\_Exercise) Consider the classes of persons, males and females. Name a relationship between all the three that should be included in an ontology. Which part of this relationship can be expressed in RDF Schema.
4. (RDFS-Exercise) Suppose we declare Bob and Peter to be the father of Mary. Obviously there is a semantic error here. How should the semantic model make this error impossible?
5. (RDFS-Exercise). What relationship exist between "is child of" and "is parent of" ?

6. (RDFS-Exercise) Consider the property eats with domain animal and range animal or plant. Suppose we define a new class vegetarian. Name a desirable restriction on eats for this class. Do you think that this restriction can be expressed in RDF Schema by using rdfs : range ?
  
7. (OWL-Exercise). Give an OWL-ontology that describes the following:  
There are courses and laboratory courses. Homeworks are part of courses. Courses are organized by teachers. Teachers are either professors or assistants. Professors teach courses while assistants only teach laboratory courses.
  
8. (OWL-Exercise) Give an OWL-ontology that describes the following:
  - a) Medicinal products are either over the counter drugs or prescription based drugs. Each medicinal product includes an active substance. In addition each medicinal product is substitutable by zero or more medicinal products.
  
  - b) Panadol is an instance of over the counter drug, Tramadol is an instance of prescription based drug, and Loperamide is an instance of active substance.