The use of any auxiliary material is strictly forbidden. Answer each question.

1. We know the following:

    Calvin is a Boy. He loves playing CalvinBall, which is a Game. Calvin also knows some Girl (whose identity is not specified here). If we know that some subject loves playing something, then that subject is an Agent.

    Assert this information as an axiomatic RDF knowledge base, using Turtle syntax. You may assume that the prefixes rdf: and rdfs: have been appropriately declared for you.

2. Explain the following terms in the course context:
    a) Logical consequence
    b) Open world assumption
    c) Incoherent class
    d) RDFLib
    e) OWL 2 Profile
    f) RDF Store

3. Specify the following classes in OWL 2 using Manchester or (SROIQ) description logic syntax: Parent, Father, Mother, FatherWhoOnlyHasSons. (I.e. you may choose which syntax to use.)

    You may assume the following classes, object properties, concepts, or roles have already been defined: hasChild, Male, Person.

4. Write a simple CONSTRUCT query that returns everything asserted about <http://foo.com/ex#Calvin> from the default graph.