6.898 – Homework No. 2 Solutions

1. Please attempt to render the following text into a circles and arrows diagram as discussed in class:

Joe Lambda, a 25-year-old man, has a FOAF file. Joe has an AIM account "jlamba", and a Jabber account "joe.lambda@example.com", which is also his e-mail address. Joe is a graduate student at Foobar University, a university in the Cambridge, Massachusetts (42.373611°N, 71.110556°W), the homepage of which is located at "http://foobar.example.org/".

Joe Lambda has two friends, Bill Foo and G. Baz. Normally, Joe lives in Somerville, Massachusetts (42.3875°N, 71.1°W), a city that borders Cambridge, with Bill. G. Baz is their neighbor. Joe, Bill, and G. have a number of different interests, but are all interested in Linked Data. Joe is also interested in Astronomy, and Cricket, Bill also enjoys American Literature and Baseball, and G. is interested in the TV show Arrested Development and Hockey.

Answers will vary. One possible answer (using RDF vocabularies) is given at http://dig.csail.mit.edu/2010/Courses/6.898/resources/homework2-q1.svg

2. List a) the resources, b) the predicates, and c) all the triples in the circles and arrows diagram at:


a) & b) The resources are the following (resources that are also properties are marked with a *):

- Illudium Phosdex
- Compound
- Active Ingredient
- Drug1
- Registered Drug
- Person
- Patient
- Bob
- CD14product
- Target
- Consultation
- Diagnosis
- Treatment
- Blue Cross
- Payer
- Eve
- Person
- Specialist physician
- Alice
- Primary care physician
- *is a
- *has ingredient
- *has function
- *participates in
- *located in
- *has role
c) The triples are the following:

- Illudium Phosdex is a Compound
- Illudium Phosdex has function Active Ingredient
- Drug1 has ingredient Illudium Phosdex
- Drug1 participates in Treatment
- Bob participates in Treatment
- Bob has role Patient
- Bob is a Person
- CD14product located in Bob
- CD14product has role Target
- Blue Cross participates in Treatment
- Blue Cross has role Payer
- Bob participates in Diagnosis
- Eve participates in Diagnosis
- Eve is a Person
- Eve has role Specialist physician
- Bob participates in Consultation
- Alice participates in Consultation
- Alice is a Person
- Alice has role Primary Care Physician

3. Using dbpedia’s relfinder ([http://relfinder.dbpedia.org/relfinder.html](http://relfinder.dbpedia.org/relfinder.html)):

Find and describe (list all the predicates and triples) the relationships between:

- Albert Einstein & University of Zurich
- John Travolta & Lawrence Bender
- Massachusetts Institute of Technology & University of Oxford

The following are the triples for Albert Einstein & University of Zurich (the predicates are in square brackets):

- Albert Einstein [almaMater] ETH Zurich
- Albert Einstein [workplaces] ETH Zurich
- Albert Einstein [doctoralAdvisor] Alfred Kleiner
- Alfred Kleiner [doctoralStudent] Albert Einstein
- University of Zurich [workplaces] Albert Einstein
- University of Zurich [almaMater] Albert Einstein
- Alfred Kleiner [almaMater] University of Zürich
- University of Zürich [redirect] University of Zurich
- University of Zurich [redirect] University of Zürich
- Johann Jakob Müller [doctoralStudent] Alfred Kleiner
- Alfred Kleiner [doctoralAdvisor] Johann Jakob Müller
- Johann Jakob Müller [almaMater] University of Zurich
- University of Zurich [almaMater] Johann Jakob Müller
The following are the triples for John Travolta & Lawrence Bender (the predicates are in square brackets):

- *Pulp Fiction (film) [starring] John Travolta*
- *Pulp Fiction (film) [producer] Lawrence Bender*
- *White Man's Burden (film) [starring] John Travolta*
- *White Man's Burden (film) [producer] Lawrence Bender*

The following are the triples for Massachusetts Institute of Technology & University of Oxford (the predicates are in square brackets):

- *Robert J. Van de Graaff [workInstitute] Massachusetts Institute of Technology*
- *Robert J. Van de Graaff [almaMater] University of Oxford*
- *Massachusetts Institute of Technology [format] Ogg*
- *University of Oxford [country] England*
- *England [format] Ogg*
- *Technology Review [publisher] Massachusetts Institute of Technology*
- *Technology Review [publisher] Jason Pontin*
- *Technology Review [editor] Jason Pontin*
- *Jason Pontin [education] University of Oxford*
- *Andrew L. Lewis, Jr. [almaMater] Massachusetts Institute of Technology*
- *Andrew L. Lewis, Jr. [successor] Elizabeth Dole*
- *Elizabeth Dole [almaMater] University of Oxford*
- *Les Aspin [almaMater] Massachusetts Institute of Technology*
- *Les Aspin [almaMater] Oxford University*
- *Oxford University [redirect] University of Oxford*
- *James Milton Ham [almaMater] Massachusetts Institute of Technology*
- *John Robert Evans [successor] James Milton Ham*
- *John Robert Evans [almaMater] University of Oxford*
- *Gian-Carlo Rota [workplaces] Massachusetts Institute of Technology*
- *Gian-Carlo Rota [notableStudents] Qaiser Mushtaq*
- *Qaiser Mushtaq [academicAdvisor] Gian-Carlo Rota*
- *Qaiser Mushtaq [almaMater] University of Oxford*

4. **Identify three linked datasets you can use and provide a scenario that utilizes data from all of them.**

   Answers will vary.