

COMP 872 Social Semantic Web Fall 2014 Assignment 5—Solutions

Due Monday, October 13 by 11:00 PM

Create a simple RDF vocabulary (using RDFS) for students, faculty, courses, class offerings, and semesters at A&T. Use the imaginary namespace

<http://www.ncat.edu/resources/terms/>

with conventional prefix `ncatvoc:`. Note that only some faculty are instructors. Be able to distinguish grad courses among the courses (and offerings of grad courses among class offerings). Only grad students may be enrolled in offerings of grad courses. We want to be able to say that a given class is an offering of a given course, that a given instructor teaches a given offering, that a given student is enrolled in a given offering (and the specialization for grad course offerings), and that a given offering is for a given semester. Include a label or comment (or two).

Answer

```
@prefix rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#> .
@prefix rdfs: <http://www.w3.org/2000/01/rdf-schema#> .
@prefix ncatvoc: <http://www.ncat.edu/resources/terms/> .

ncatvoc:Person a rdfs:Class .

ncatvoc:Faculty a rdfs:Class;
    rdfs:subClassOf ncatvoc:Person .

ncatvoc:Instructor a rdfs:Class;
    rdfs:subClassOf ncatvoc:Faculty .

ncatvoc:Student a rdfs:Class;
    rdfs:subClassOf ncatvoc:Person .

ncatvoc:GradStudent a rdfs:Class;
    rdfs:subClassOf ncatvoc:Student .

ncatvoc:UGradStudent a rdfs:Class;
    rdfs:subClassOf ncatvoc:Student .

ncatvoc:Course a rdfs:Class .

ncatvoc:GradCourse a rdfs:Class;
    rdfs:subClassOf ncatvoc:Course .

ncatvoc:ClassOffering a rdfs:Class .

ncatvoc:GradClassOffering a rdfs:Class;
    rdfs:subClassOf ncatvoc:ClassOffering .

ncatvoc:Semester a rdfs:Class .

ncatvoc:offeringOf a rdfs:Property;
    rdfs:domain ncatvoc:ClassOffering;
    rdfs:range ncatvoc:Course .

ncatvoc:teaches a rdfs:Property;
```

```

    rdfs:domain ncatvoc:Instructor;
    rdfs:range ncatvoc:ClassOffering .

ncatvoc:enrolledIn a rdfs:Property;
    rdfs:domain ncatvoc:Student;
    rdfs:range ncatvoc:ClassOffering .

ncatvoc:gradEnrolledIn a rdfs:Property;
    rdfs:subPropertyOf ncatvoc:enrolledIn;
    rdfs:domain ncatvoc:GradStudent;
    rdfs:range ncatvoc:GradClassOffering .

ncatvoc:during a rdfs:Property;
    rdfs:domain ncatvoc:ClassOffering;
    rdfs:range ncatvoc:Semester;
    rdfs:comment "A class is offered during a semester." .

```

Create a RDF document that says something about a certain student taking a course offering. Use the following imaginary URIs:

```

http://www.ncat.edu/resources/students/
http://www.ncat.edu/resources/faculty/
http://www.ncat.edu/resources/courses/
http://www.ncat.edu/resources/semesters/
http://www.ncat.edu/resources/classSchedule/ (for class offerings)

```

You can use short numerical ids (e.g., three digits) to keep things simple.

Answer

```

@prefix rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#> .
@prefix ncatvoc: <http://www.ncat.edu/resources/terms/> .
@prefix stuid: <http://www.ncat.edu/resources/students/> .
@prefix facid: <http://www.ncat.edu/resources/faculty/> .
@prefix courseid: <http://www.ncat.edu/resources/courses/> .
@prefix semid: <http://www.ncat.edu/resources/semesters/> .
@prefix offid: <http://www.ncat.edu/resources/classSchedule/> .

stuid:123 a ncatvoc:GradStudent;
    ncatvoc:gradEnrolledIn offid:246 .

courseid:11079001 a ncatvoc:GradCourse .

semid:20113 a ncatvoc:Semester .

offid:246 a ncatvoc:GradClassOffering;
    ncatvoc:offeringOf courseid:11079001;
    ncatvoc:during semid:20113 .

facid:936 a ncatvoc:Instructor;
    ncatvoc:teaches offid:246 .

```