

Quiz 10: RDF and OWL

Due Nov 14, 2016 at 11:59pm

Points 100

Questions 7

Available Apr 4, 2016 at 8am - Nov 14, 2016 at 11:59pm 7 months

Time Limit 60 Minutes

This quiz was locked Nov 14, 2016 at 11:59pm.

Attempt History

	Attempt	Time	Score
LATEST	Attempt 1	57 minutes	68 out of 100

Score for this quiz: **68** out of 100

Submitted Nov 14, 2016 at 8:04pm

This attempt took 57 minutes.

Question 1

10 / 10 pts

What are the six layers of the Semantic Web (besides Unicode)?

1. xml + NS + xmlschema

2. RDF + rdfschema

3. Ontology vocabulary

4. Logic

5. Proof

6. Trust

Answer 1:

You Answered

xml + NS + xmlschema

Correct Answer

XML

Answer 2:

You Answered

RDF + rdfschema

Incorrect Answer

RDF

Answer 3:

You Answered

Ontology vocabulary

Incorrect Answer

Ontology

Answer 4:

Correct!

Logic

Answer 5:

Correct!

Proof

Answer 6:

Correct!

Trust

Question 2

10 / 10 pts

What are the fundamental concepts of RDF?

1. resources

2. properties

3. statements

Answer 1:

You Answered

resources

Incorrect Answer

statements

Answer 2:

You Answered

properties

Incorrect Answer

resources

Answer 3:

You Answered

statements

Incorrect Answer

properties

Question 3

10 / 10 pts

What are the three components of an RDF triple?

1. subject

2. predicate

3. object

Answer 1:

subject

Answer 2:

predicate

Answer 3:

object

Correct!

Correct!

Correct!

Question 4

10 / 10 pts

What are the two properties that RDFS uses to specify inclusions? Use qname syntax.

1. rdfs:subClassOf

2. rdfs:subPropertyOf

Answer 1:

rdfs:subClassOf

Answer 2:

rdfs:subPropertyOf

Correct!

Correct!

Question 5

10 / 10 pts

What are the two meta-properties (properties of properties) that RDFS uses to relate properties to types?

1.

2.

Answer 1:

Answer 2:

Correct!

Correct!

Question 6

13 / 25 pts

A student record in a database has the following fields:

- name
- major
- student identity number
- GPA
- Advisor

Model this database using RDF Schema, by defining the classes and properties. Use the N3 notation. Give the triples for one example student record.

Your Answer:

Database modeling:

:Student rdfs:type rdfs:Class

:name rdfs:domain :Student

:major rdfs:domain :Student

:IdentificationNumber rdfs:domain :Student

:GPA rdfs:domain :Student

:Advisor rdfs:domain :Student

Triples(Example on Assumed Data)::

Std:Parth Std:major ComputerScience

Std:Xieq Std:GPA 3.9

-5: property declaration missing -7: example incorrect

Question 7

5 / 25 pts

For the previous question, define the following using OWL statements:

1. A student has exactly one advisor.
2. A student is uniquely identified by their SIN.
3. Define the set of honor students as the set of all students whose GPA is 4.0. This is a very strong notion of honor student, but it greatly simplifies the question for you.

Your Answer:

1. :Student rdfs:subClassOf

```
[ a owl:Restriction;  
    owl:onProperty :advisor;  
    owl:cardinality 1 ]
```

2. Std:IdentificationNumber rdf:type owl:InverseFunctionalProperty

3.

:Student rdfs:subClassOf

```
[ a owl:Restriction;  
    owl:onProperty :GPA;  
    owl:cardinality 4.0 ]
```

ans 1) incorrect correct ans: :advisor rdf:type owl:functionalProperty ans 2) incorrect
:honorStudent owl:equivalentClass [a owl:Restriction; owl:onProperty :gpa ;
owl:hasValue 4.0]

Quiz Score: **68** out of 100