RDF and RDFS Review Questions

1. What are the three components of an RDF triple?

Answer: An RDF triple consists of:

- **Subject**: The resource being described
- **Predicate**: The property or relationship
- **Object**: The value of the property or the other resource it relates to

2. What is a URI and why is it important in RDF?

Answer: A Uniform Resource Identifier (URI) is a string of characters used to identify a resource. It's important in RDF because it provides a way to uniquely identify resources across the web, allowing for unambiguous reference and linking of data.

3. What are the main types of RDF serialization formats mentioned in the slides?

Answer: The main RDF serialization formats mentioned are:

- N-Triples
- RDF/XML

- Turtle (Terse RDF Triple Language)
- JSON-LD

4. What is a blank node in RDF?

Answer: A blank node in RDF denotes the existence of an individual with specific attributes, but without providing an identification or reference. It's used when the identity of the node is not important or is unknown.

5. What is RDF reification and what is it used for?

Answer: RDF reification is a mechanism for making statements about other statements. It's used for:

- Modeling data provenance
- Formalizing statements about reliability and trust
- Defining metadata about statements

6. What is the purpose of RDF Schema (RDFS)?

Answer: RDF Schema (RDFS) enhances the expressivity of RDF by allowing:

- Definition of classes and properties
- Specification of relationships between classes and properties
- Definition of domain and range constraints on properties

7. How does RDFS enable the definition of hierarchical relationships?

Answer: RDFS enables the definition of hierarchical relationships through:

- `rdfs:subClassOf` for defining subclasses and superclasses
- `rdfs:subPropertyOf` for defining subproperties and superproperties

8. What are some examples of logical inferences that can be made with RDFS?

Answer: Some examples of logical inferences with RDFS include:

- Deducing entity class membership from the domain or range of its properties
- Inferring entity superclass membership from a class hierarchy
- Deducing new facts from subproperty relationships

9. What is the difference between a container and a collection in RDF?

Answer: In RDF:

- A **container** is an open list where extension (adding new entries) is possible.
- A **collection** is a closed list where no extension is possible.

10. What are some additional properties provided by RDFS for describing resources?

Answer: Some additional properties provided by RDFS include:

- `rdfs:seeAlso`: Relates a resource to another that explains it.
- `rdfs:isDefinedBy`: Relates a resource to its definition.
- `rdfs:comment`: Provides a comment, usually as text.
- `rdfs:label`: Provides a "readable" name for a resource.

- `rdfs:member`: A super-property of all container membership properties.