RDF schema provides a data-modelling vocabulary for RDF data

We can define classes and properties relating entities of one classes to entities of others objects

State that a resource is a class:

ex:Person rdf:type rdfs:Class

State that a resource is an instance of a class:

Ex:bob rdf:type ex:Person

State that a class is a subclass of another class

ex:Student rdfs:subClassOf ex:Person

State that a property is a subclass of another property

ex:parentOf rdfs:subPropertyOf ex:relativeOf

Specify a domain of a property

ex:authorOf rdfs:domain ex:Person

Specify a range of a property

ex:authorOf rdfs:range ex:Book

## Ex.1

There are people, students, and music albums

ex:Person rdf:type rdfs:Class.

ex:Student rdf:type rdfs:Class.

ex:MusicAlbum rdf:type rdfs:Class.

Carol is a student

ex:carol rdf:type ex:Student.

Student are people, people are animals

ex:Student rdfs:subClassOf ex:Person.

ex:Person rdfs:sunClassOf ex:Animals.

Bob likes the album “The dark side of the moon”, Alice likes “The wall”.

ex:likes rdfs:domain ex:Person; rdfs:range ex:Albums.

ex:bob ex:likes ex:TDSOTM.

ex:alice ex:likes ex:TW

Bob has purchased the album “Meddle”, and Alice has purchased the album “Animals”.

ex:purchase rdfs:domain ex:Person; rdfs:range ex:Album.

ex:bob ex:purchase ex:meddle.

ex:alice ex:purchase ex:animals.

Like, purchase and own are properties.

ex:own rdfs:domain ex:Person; rdfs:range ex:Album.

If someone likes something then they purchase it

Ex:likes rdfs:subClassOf ex:purchase.

If someone purchases something, then they own it.

Ex:purchase rdfs:sunClassOf ex:own.

## Ex.2

## Ex.3

Retrieve all the subclasses of ex:Person.

SELECT ?x

WHERE {?x rdfs:subClassOf\* ex:Person}

Retrieve all the subclasses of ex:Student.

SELECT ?s

WHERE {?s rdfs:subClassOf\* ex:Student}

Retrieve all the superclasses of ex:Student.

SELECT ?o

WHERE {ex:Student rdfs:subClassOf\* ?o}

Retrieve pianist

SELECT ?s

WHERE {?s rdf:type ex:Pianist}

Retrieve musicians

SELECT ?s

WHERE {?s rdf:type ex:Musicians}