(TR-102) MASTERING THE SEMANTIC WEB –

Training Day 8 Report :

24 June 2024

Introduction to OWL :

The Web Ontology Language (OWL) is a semantic web language designed to represent rich and complex knowledge about things, a group of things, and relations between things.

Versions of OWL:

There are two versions of OWL available:

- OWL1(Web Ontology Language 1.0):
  - Enables ontology creation and sharing on the Semantic Web; more expressive than RDF Schema (RDFS).
  - Features include defining classes, properties (object and datatype), member restrictions, and RDF/RDFS compatibility.

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- OWL2(Web Ontology Language 2.0):
  - Extends OWL1 with new constructors (property chains, disjoint unions) and enhanced datatype support
  - OWL2 is presently used.

Ontologies:

Ontologies are described as a way of showing the properties of a subject area and how they are related, by defining a set of concepts and categories that represent the subject.

Triples of OWL:

OWL also uses triples similar to RDF, covering concepts, relationships, and instances.

- Concepts represent a set of classes or entities or things within a domain, which are used to classify individuals or other classes or a combination of both.
- Instances are used to refer to the things represented by the concept. It may include concrete objects such as people, animals, tables, or abstract individuals such as numbers and words.
- Relationship specifies how objects are related to one another.

Introduction to VOWL :

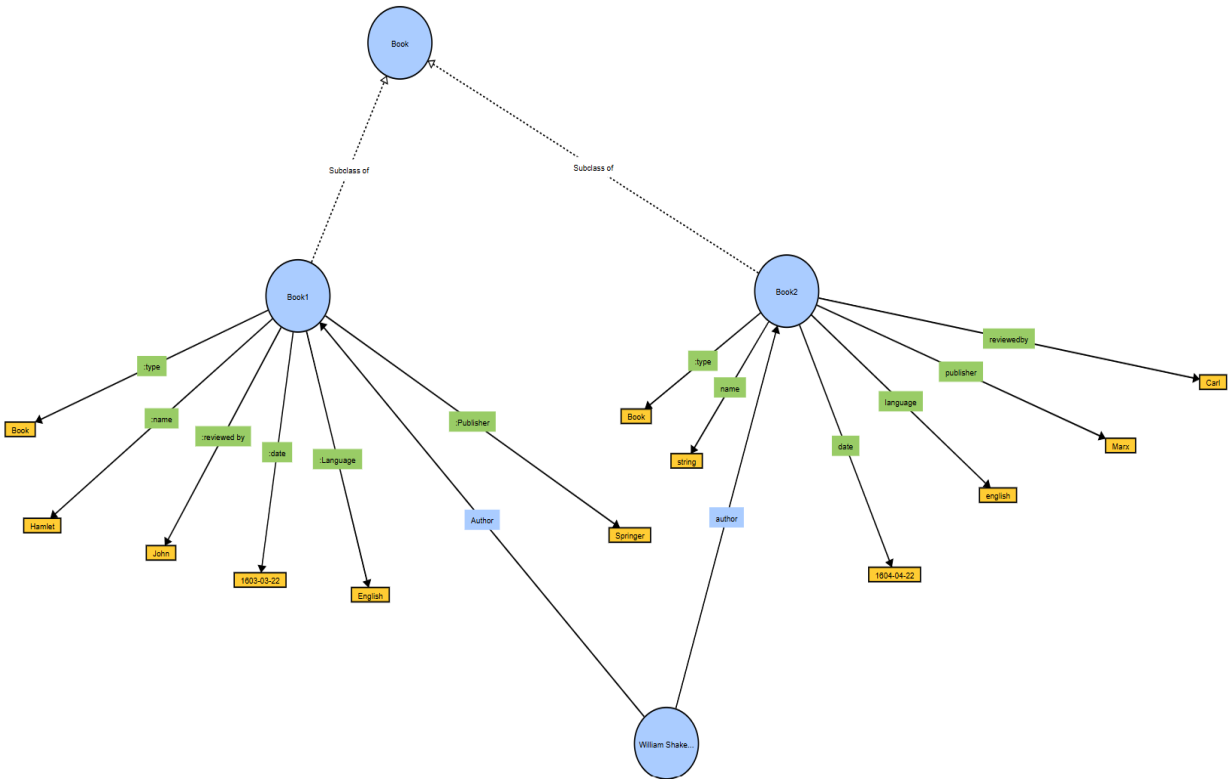
(i). VOWL (Visual Notation for OWL Ontologies) is a tool that helps visualize and understand ontologies, which are formal descriptions of knowledge.

(ii). VOWL provides a visual way to represent the different elements of an ontology, such as:

- Classes - The main concepts or things in the ontology, shown as labeled circles.
- Properties - The relationships between classes, shown as labeled arrows.
- Individuals - Specific instances of classes, shown as smaller circles.
- Datatypes - The types of data associated with properties, shown as small squares.

(iii). VOWL arranges these visual elements in a force-directed graph layout, where related elements are grouped together. This makes it easier to see the overall structure and connections within the ontology.

Task :



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