



Semantic Web

Assignment 1

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Question 1.1

- ☒ true ☐ false “Jaguar” in the context of cars and “Jaguar” in the context of animals have the same syntax but different semantics.

Question 1.1

- ☐ true ☒ false The Semantic Web replaces the traditional HTML-based Web.

Question 1.1

☐ true ☒ false XML data carries formal semantics.

XML - Extensible Markup Language

Question 1.1

☐ true ☒ false All URIs are also URL.

URI - Uniform Resource Identifiers (URIs)

Ex: `mailto:johndoe@domain.com`

URLs (Uniform Resource Locators)

Ex: `https://johndoe.homepage.com`

Question 1.1

☐ true ☒ false New vocabularies can be defined by only using RDF.

Question 1.2

URIs are used for the globally unique identification of resources.

XML is used for the syntactical representation of (semi-)structured data.

RDF is used for modelling knowledge about resource and their relationships in form of triples.

Question 1.2

RDF-S and OWL specifying semantics explicitly.
are used for

RDF-S: RDF Schema (Resource Description Framework Schema)

OWL – Web Ontology Language

Question 1.2

RDF-S and OWL specifying semantics explicitly.
are used for

SPARQL is used expressing queries against sets of RDF triples.
for

Question 2.1

Write a program to perform HTTP GET against the following resources and fill in the status codes. Briefly explain the meaning of its status code.

<code>http://dbpedia.org/person/Ada_Lovelace</code>	Response Code 404 (Not Found).
<code>http://dbpedia.org/resource/Ada_Lovelace</code>	Response Code 200 (OK).

Question 2.1

Write a program to perform HTTP GET against the following resources and fill in the status codes. Briefly explain the meaning of its status code.

```
1 import requests
2 import click
3
4 @click.command()
5 @click.argument('url')
6 def request_url(url):
7     response = requests.get(url)
8     print('status code:', response.status_code)
9     print('Content: ', response.content)
10
11
12 request_url()
```

Question 2.2

Go to DBpedia and look at the URI of Chocolate (<http://dbpedia.org/resource/Chocolate>). Inform in the table below all the URIs that a software program needs to access to go from “Chocolate” to “Aztec_Empire”.

Source URI	Property URI	Target URI

Question 2.2

Go to DBpedia and look at the URI of Chocolate (<http://dbpedia.org/resource/Chocolate>). Inform in the table below all the URIs that a software program needs to access to go from “Chocolate” to “Aztec_Empire”.

Source URI	Property URI	Target URI
http://dbpedia.org/resource/Chocolate	http://dbpedia.org/ontology/ingredient	http://dbpedia.org/resource/Chocolate_liquor
http://dbpedia.org/resource/Chocolate_liquor	http://dbpedia.org/ontology/ingredient	http://dbpedia.org/resource/Cocoa_bean
http://dbpedia.org/resource/Cocoa_bean	http://dbpedia.org/ontology/currency	http://dbpedia.org/resource/Aztec_Empire