

Assignment-4

Topic: Inference using OWL

Roll No.:CS22M055

How to run the file :

1. Prerequisite:

Python version , install rdflib and owlready2 using the pip install command.

2. How to run the Python file:

Go to the folder where the python file, XML file, and rdf/xml file are present using the cd command and execute the file using “python cs22m055.py”.

It gives the output and generates the following files in the folder :

Inferred pdf file name Assignment4rdf_consistent.rdf and Assignment4rdf_final.rdf.

And generate the text file Allinferred and dataInferred which contain rdf tuples.

3. Alternative approach:

We can also run it online on google colab. We have to upload the shopping_mall.xml, Assignment4rdf.rdf, and cs22m055.py files on Google colab and simply run the cell by pressing ctrl+enter. It gives the output and generates the output files that default location on the left side of it.

Code snippet:

```

(rdfLib.term.URIRef('http://www.semanticweb.org/home/ontologies/2013/3/Shopping_mallmovie mono'), rdfLib.term.URIRef('http://www.w3.org/2000/01/rdf-schema#label'), rdfLib.term.Literal('cold drink', datatype=rdfLib.term.URIRef('http://www.w3.org/2001/XMLSchema#string')))

(rdfLib.term.URIRef('http://www.semanticweb.org/home/ontologies/2013/3/Shopping_mallmovie mono'), rdfLib.term.URIRef('http://www.w3.org/2000/01/rdf-syntax-ns#type'), rdfLib.term.URIRef('http://www.w3.org/2002/07/owl#namedindividual'))

(rdfLib.term.URIRef('http://www.semanticweb.org/home/ontologies/2013/3/Shopping_mallmovie mono'), rdfLib.term.URIRef('http://www.semanticweb.org/home/ontologies/2013/3/Shopping_mallmovie mono'), rdfLib.term.Literal('3', datatype=rdfLib.term.URIRef('http://www.w3.org/2001/XMLSchema#integer')))

(rdfLib.term.URIRef('http://www.semanticweb.org/home/ontologies/2013/3/Shopping_mallmovie mono'), rdfLib.term.URIRef('http://www.w3.org/2000/01/rdf-schema#label'), rdfLib.term.Literal('veg steamed nonos', datatype=rdfLib.term.URIRef('http://www.w3.org/2001/XMLSchema#string')))

(rdfLib.term.URIRef('http://www.semanticweb.org/home/ontologies/2013/3/Shopping_mallmovie mono'), rdfLib.term.URIRef('http://www.w3.org/2000/01/rdf-syntax-ns#type'), rdfLib.term.URIRef('http://www.w3.org/2002/07/owl#namedindividual'))

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(rdfLib.term.URIRef('http://www.semanticweb.org/home/ontologies/2013/3/Shopping_mallmovie mono'), rdfLib.term.URIRef('http://www.w3.org/2000/01/rdf-schema#label'), rdfLib.term.Literal('burger', datatype=rdfLib.term.URIRef('http://www.w3.org/2001/XMLSchema#string')))

(rdfLib.term.URIRef('http://www.semanticweb.org/home/ontologies/2013/3/Shopping_mallmovie mono'), rdfLib.term.URIRef('http://www.w3.org/2000/01/rdf-syntax-ns#type'), rdfLib.term.URIRef('http://www.w3.org/2002/07/owl#namedindividual'))

(rdfLib.term.URIRef('http://www.semanticweb.org/home/ontologies/2013/3/Shopping_mallmovie mono'), rdfLib.term.URIRef('http://www.semanticweb.org/home/ontologies/2013/3/Shopping_mallmovie mono'), rdfLib.term.Literal('3', datatype=rdfLib.term.URIRef('http://www.w3.org/2001/XMLSchema#integer')))

(rdfLib.term.URIRef('http://www.semanticweb.org/home/ontologies/2013/3/Shopping_mallmovie mono'), rdfLib.term.URIRef('http://www.w3.org/2000/01/rdf-schema#label'), rdfLib.term.Literal('chickenwings', datatype=rdfLib.term.URIRef('http://www.w3.org/2001/XMLSchema#string')))

(rdfLib.term.URIRef('http://www.semanticweb.org/home/ontologies/2013/3/Shopping_mallmovie mono'), rdfLib.term.URIRef('http://www.w3.org/2000/01/rdf-syntax-ns#type'), rdfLib.term.URIRef('http://www.w3.org/2002/07/owl#namedindividual'))

(rdfLib.term.URIRef('http://www.semanticweb.org/home/ontologies/2013/3/Shopping_mallmovie mono'), rdfLib.term.URIRef('http://www.semanticweb.org/home/ontologies/2013/3/Shopping_mallmovie mono'), rdfLib.term.Literal('3', datatype=rdfLib.term.URIRef('http://www.w3.org/2001/XMLSchema#integer')))

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(rdfLib.term.URIRef('http://www.semanticweb.org/home/ontologies/2013/3/Shopping_mallmovie mono'), rdfLib.term.URIRef('http://www.w3.org/2000/01/rdf-schema#label'), rdfLib.term.Literal('veg steamed nonos', datatype=rdfLib.term.URIRef('http://www.w3.org/2001/XMLSchema#string')))

total new rdf triples are 33
* OutReady3 * running hermit...
java -Xmx2000M -cp /usr/local/lib/python3.10/dist-packages/outready3/hermit:/usr/local/lib/python3.10/dist-packages/outready3/hermit/hermit.jar org.semanticweb.hermit.cli.CommandLine --s -o -t file:///tmp/tmp8f4u0q0l
no of triples before : 371
no of triples after : 383
new inferences and all inferences Generated....
* OutReady3 * hermit took 2.830247019414 seconds
* OutReady3 * (nb: only changes on entities loaded in python are shown, other changes are done but not listed)
```