

Ontology Inference: By Hand & Reasoner

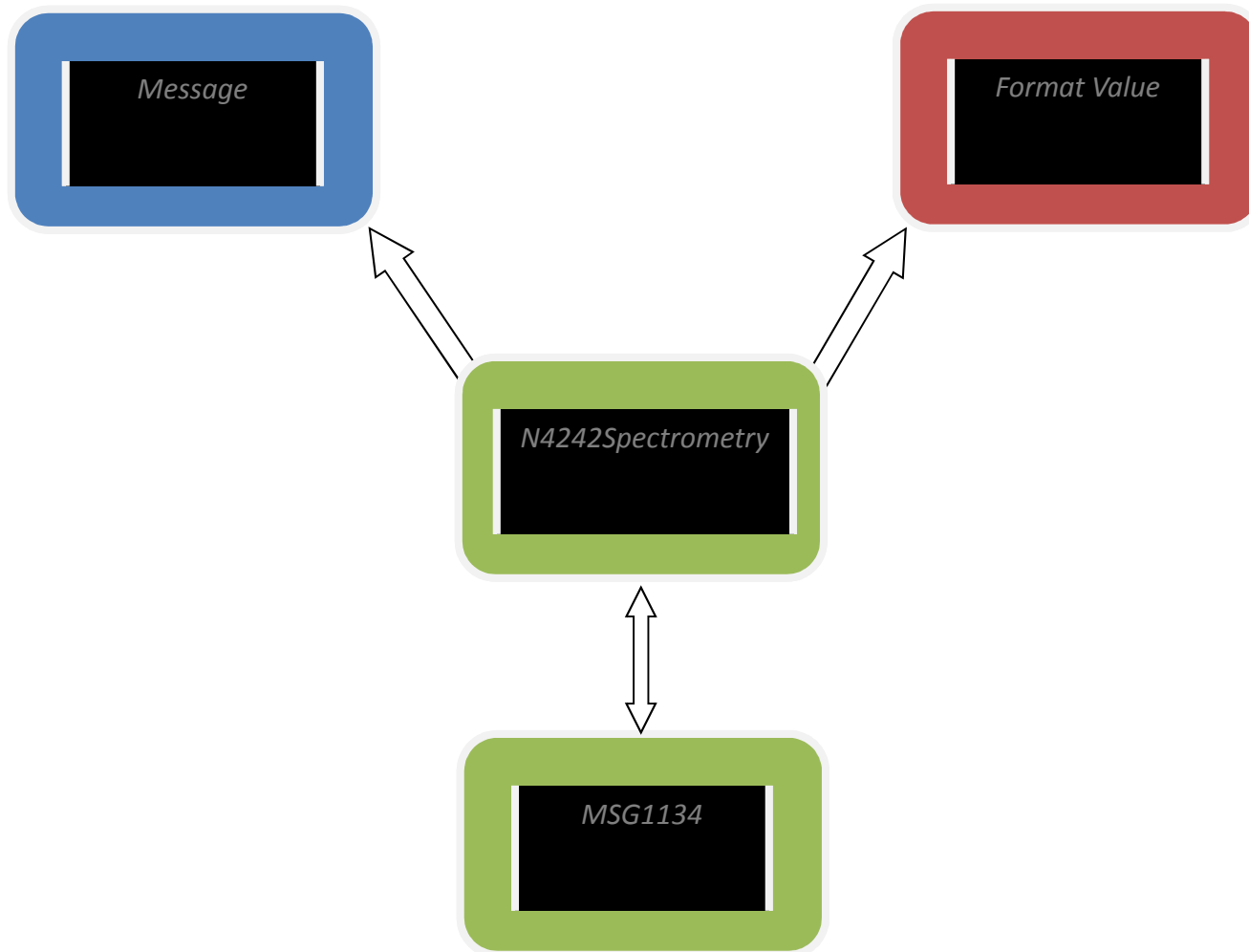
Ngoc-Tung Nguyen

Week Seven

CS-498

Task 1: Prove that MSG1134 is an object of type Message

- By Hand



Task 1: Prove that MSG1134 is an object of type Message

- By Reasoner
 - Command: pellet **explain** --instance `http://ontonet.org/full-example.rdf#MSG1134,http://ontonet.org/message.owl#Message full-example.rdf`

- Result:

Axiom: MSG1134 type Message

Explanation:

MSG1134 type N4242Spectrometry

N4242Spectrometry equivalent To Message

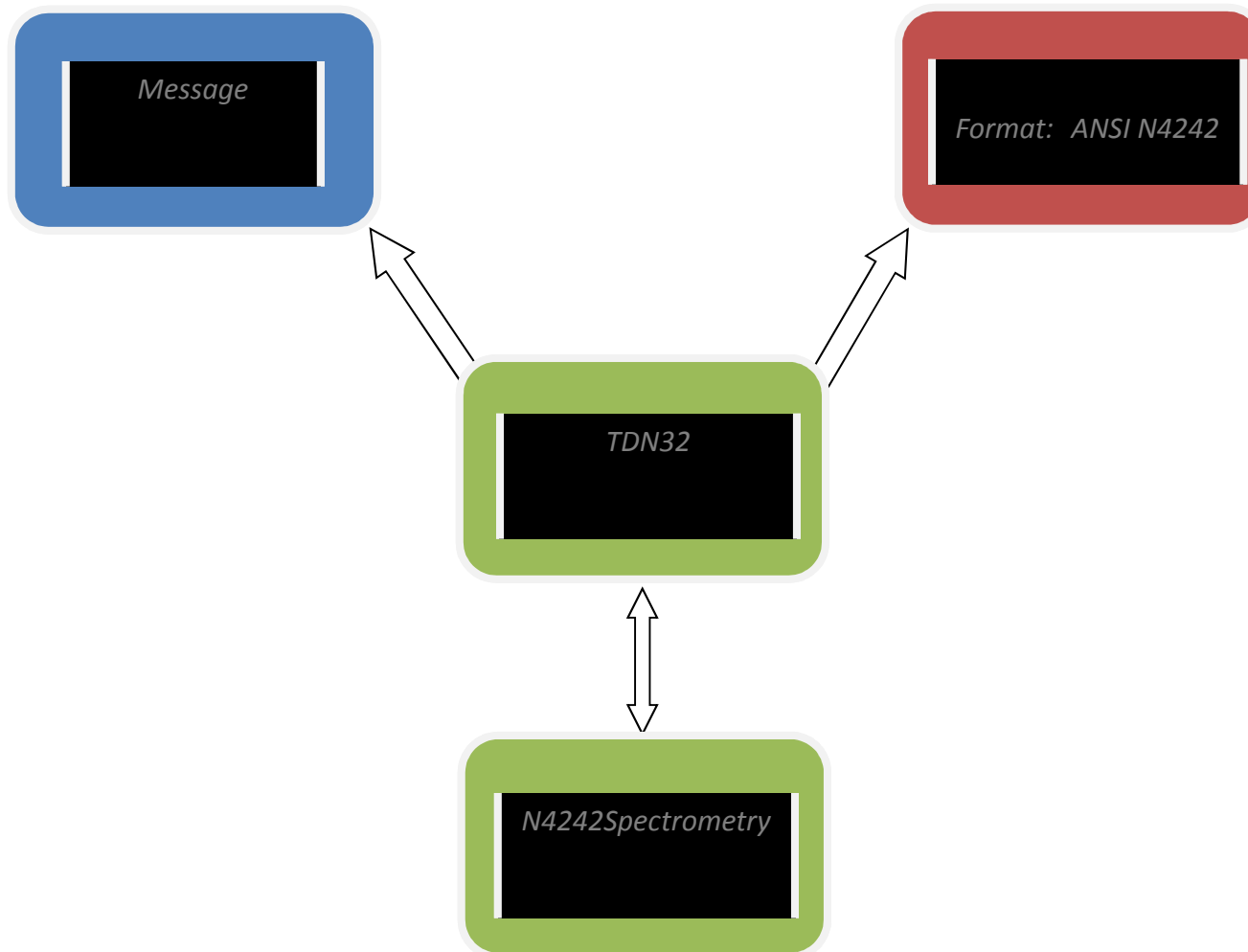
and format value

Task 2a: Write a description for another object of type Message which has format ANSI N4242

```
<msg:Message rdf:about="&ex;#TDN32">
  <msg:source>
    <cbr2:Fixed-FT-IR rdf:about="#Sensor03NG">
      <msg:org rdf:resource="&orgs;#NEAir-Haz" />
    </cbr2:Fixed-FT-IR>
  </msg:source>
  <msg:format rdf:resource="&nist-ansi-n4242xsd;#" />
  <cbr:nuclideDetected>
    <cbr2:Am-241>
      <cbr:confidence>93.0</cbr:confidence>
      <cbr2:concentration>0.002</cbr2:concentration>
    </cbr2:Am-241>
  </cbr:nuclideDetected>
</msg:Message>
```

Task 2b: Prove that Message is an object of type N4242Spectrometry

- By Hand



Task 2b: Prove that Message is an object of type N4242Spectrometry

- By Reasoner
 - Command: pellet **explain** --instance `http://ontonet.org/full-example.rdf#TDN32,http://ontonet.org/cbr2.owl#N4242Spectrometry full-example.rdf`

- Result:

Explanation:

N4242Spectrometry equivalentTo Message and format value

TDN32 format

TDN32 type Message