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# QUESTIONS FROM THE COURSES

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## Day 05: questions from the course on Vocabularies.

### Q6.1 What do you think of the annotation?

```
@prefix skos: <http://www.w3.org/2004/02/skos/core#>.
<#B-A-Ba> a skos:Concept ;
    skos:prefLabel    "B.A.-BA"@en , "b.a.-ba"@en ;
    skos:altLabel     "B-A-BA"@en ,  "b-a-ba"@en ;
    skos:hiddenLabel  "BABA"@en ,  "baba"@en .
```

Because there are two prefLabel (you can only have one), it returns error.

### Q6.2 practice:

1. Using the site [prefix.cc](http://prefix.cc) find back the namespace usually associated to the SKOS prefix
2. Access the URL of the namespace and find the RDF source file defining the SKOS vocabulary
3. Find the definition of the property `narrowMatch` and give all the relations it has with other properties

skos:narrowMatch	
URI:	<a href="http://www.w3.org/2004/02/skos/core#narrowMatch">http://www.w3.org/2004/02/skos/core#narrowMatch</a>
Definition:	<a href="#">Section 10. Mapping Properties</a>
Label:	<i>has narrower match</i>
Super-properties:	<a href="#">skos:mappingRelation</a> <a href="#">skos:narrower</a>
Inverse of:	<a href="#">skos:broadMatch</a>

### Q6.3 practice:

1. Open the source file of Dublin Core Terms:  
<http://dublincore.org/2012/06/14/dcterms.rdf>  
Look at the definition of the class `FileFormat` and find the class it inherits from.
2. Choose your preferred book on Amazon, Fnac, etc. and describe it in an RDF annotation using as many DC primitives as necessary .
3. Add the most restrictive CC license to your preferred book ; is this license appropriate?

Subclass of	<code>http://purl.org/dc/terms/MediaType</code>
<pre>@prefix rdf: &lt;http://www.w3.org/1999/02/22-rdf-syntax-ns#&gt; . @prefix dc: &lt;http://purl.org/dc/elements/1.1/&gt; . @prefix dcterms: &lt;http://purl.org/dc/terms/&gt; . &lt; https://www.amazon.com/Where-Crawdads-Sing-Delia- Owens/dp/0735219095/ref=zg_bsar_books_1?_encoding=UTF8&amp;psc=1&amp;refRID=F82XVS1FHPJD100XY0Q7 &gt; dc:title "Where the Crawdads Sing" ; dc:language "en" ; dc:subject "RDF, RDFS, SPARQL, OWL, SKOS" ; dc:date "2018-08-14" ; dc:publisher &lt; https://www.amazon.com/&gt; ; dc:format "text/html" ; dc:type dcterms:Text .</pre>	
<pre>@prefix xhtml: &lt;http://www.w3.org/1999/xhtml/vocab#&gt; . &lt;http://fabien.info/&gt; xhtml:license &lt;http://creativecommons.org/licenses/by-sa/3.0/&gt;</pre>	

### Q6.4 practice:

1. Get the source of the FoaF schema: <http://xmlns.com/foaf/spec/index.rdf>
2. Find the property `weblog`
3. What are the types of this property?
4. Does it inherit from other properties?
5. What is its signature?

`owl:ObjectProperty, owl:InverseFunctionalProperty`

`http://xmlns.com/foaf/0.1/page`

Agent and Document

## Q6.5 practice:

1. Find the FOAF-a-Matic web page
2. Use this tool to generate your FOAF profile in RDF/XML
3. Translate it into Turtle, save and give the result in your answers.
4. Add five specific relationships to your FOAF file using RELATIONSHIPS:

<http://purl.org/vocab/relationship/>

```
@prefix admin: <http://webns.net/mvcb/> .
@prefix foaf: <http://xmlns.com/foaf/0.1/> .
@prefix rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#> .
@prefix rdfs: <http://www.w3.org/2000/01/rdf-schema#> .
@prefix xml: <http://www.w3.org/XML/1998/namespace> .
@prefix xsd: <http://www.w3.org/2001/XMLSchema#> .

<> a foaf:PersonalProfileDocument ;
    admin:errorReportsTo <mailto:leigh@ldodds.com> ;
    admin:generatorAgent <http://www.ldodds.com/foaf/foaf-a-matic> ;
    foaf:maker <#me> ;
    foaf:primaryTopic <#me> .

<#me> a foaf:Person ;
    foaf:family_name "Wu" ;
    foaf:givenname "Ling-Hsuan" ;
    foaf:knows [ a foaf:Person ;
        foaf:name "Charlotte" ],
        [ a foaf:Person ;
            foaf:name "Mandy" ],
        [ a foaf:Person ;
            foaf:name "Every" ] ;
    foaf:name "Ling-Hsuan Wu" ;
    foaf:nick "Cheryl" ;
    foaf:schoolHomepage <DSTI> ;
    foaf:title "Mrs"
    rel:knowsOf [ a foaf:Person ;
        foaf:name "Catherine " ],
        [ a foaf:Person ;
            foaf:name "Fabien" ];
    rel:neighborOf [ a foaf:Person ;
        foaf:name "Zhou" ],
        [ a foaf:Person ;
            foaf:name "Sun" ];
```

```

rel: childOf [ a foaf:Person ;
                foaf:name "Kenny" ],
[ a foaf:Person ;
  foaf:name "Janus" ];
rel: influencedBy [ a foaf:Person ;
                   foaf:name "Grace" ];
rel: wouldLikeToKnow [ a foaf:Person ;
                      foaf:name "Eric" ]
.

```

#### Q6.6 What does this mean?

```

:BioRDF2DBLP a void:Linkset;
              void:target :BioRDF;
              void:target :DBLP;
              void:linkPredicate skos:exactMatch;
              void:triples 8936 .

```

:BioRDF2DBLP is a linkset exactly match which links to BioRDF and DBLP. Its predicate link is skos:exactMatch. There are 8936 matches.

#### Q6.7 practice:

1. Connect to the Void Store SPARQL endpoint:  
<http://void.rkbexplorer.com/sparql/>
2. What is the meaning of the default SPARQL query in the interface, run it and look at the results.
3. Write a SPARQL query to find the dataset that has for label "DBpedia-fr" and all its properties.

Select all endpoints.

```
SELECT * WHERE { ?x rdfs:label "DBpedia-fr". ?x ?p ?y }
```

#### Q6.8 What does this mean?

```

ex:plot prov:used ex:stats1998 .
ex:bar-chart prov:wasGeneratedBy ex:plot .
ex:stats1998 a dcat:Distribution ;
              dcat:format [ rdfs:label "CSV" ] ;
              dcat:mediaType "text/csv" .

```

Plot uses dataset stats1998, a distribution in csv format.

Bar-chart was generated by plot.

## Q6.9 What does this mean?

```
@prefix dcat: <http://www.w3.org/ns/dcat#> .
@prefix void: <http://rdfs.org/ns/void#> .
@prefix rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#> .
@prefix rdfs: <http://www.w3.org/2000/01/rdf-schema#> .
@prefix prov: <http://www.w3.org/ns/prov#> .
@prefix dct: <http://purl.org/dc/terms/> .
@prefix foaf: <http://xmlns.com/foaf/0.1/> .
@prefix xsd: <http://www.w3.org/2001/XMLSchema#> .
@prefix : <http://inria.fr/data#> .

:db-employ
  a dcat:Distribution ;
  dcat:downloadURL <http://wimmics.inria.fr/docs/employ-2014.sql> ;
  dct:title "SQL Dump of the employees" ;
  dct:spatial <http://www.geonames.org/6640252> ;
  dct:issued "2015-01-12"^^xsd:date ;
  dct:temporal <http://reference.data.gov.uk/id/year/2014> ;
  dct:publisher <http://inria.fr> ;
  dcat:mediaType "application/sql" ;
  dcat:format [ rdfs:label "SQL" ] ;
  dct:language <http://id.loc.gov/vocabulary/iso639-1/fr> ;
  dcat:byteSize "38729"^^xsd:decimal .

:R2RTransform12 prov:used :db-employ ;
                prov:used :R2R-employ-mapping ;
                prov:used <http://xmlns.com/foaf/0.1/> .

:FoaFDump a void:Dataset;
          void:feature <http://www.w3.org/ns/formats/RDF_XML>;
          void:dataDump <http://wimmics.inria.fr/docs/employ-2014.rdf>;
          void:exampleResource <http://ns.inria.fr/fabien.gandon#me> ;
          void:vocabulary <http://xmlns.com/foaf/0.1/>;
          void:triples 12875;
          dct:title "RDF Dump of the employees" ;
          prov:wasGeneratedBy :R2RTransform12 ;
```

```
prov:generatedAtTime "2015-01-14T11:38:27"^^xsd:dateTime ;
prov:wasDerivedFrom :db-employ .
```

db\_employ is a distribution can be connect with url, <http://wimmics.inria.fr/docs/employ-2014.sql>. Its title is "SQL Dump of the employees".

R2RTransform12 uses db\_employ, R2R-employ-mapping and foaf.

FoaFDump is generate by R2RTransform12.

Q6.10 practice:

1. Connect to the LOV directory: <https://lov.linkeddata.es/>
2. Search for schemas talking about “music artist”.
3. What is the top ontology you find?
4. What is its version number?
5. Is it reused by other ontologies?
6. How many classes and properties does it have?
7. What expressivity does it use? (RDFS, OWL)

mo:MusicArtist(mo)
2.1.5
Yes
This vocabulary defines 54 classes and 153 properties.
RDFS, OWL

## Day 05: questions from the course on other data formats.

Q7.1 What are the triples produced with this mapping and this table?

```
:My_Table rdf:type rr:TriplesMap ;
  rr:subjectMap [ rr:template
    "https://www.ietf.org/rfc/rfc{NUM}.txt"; ];
  rr:predicateObjectMap [
    rr:predicateMap [ rr:predicate dc:title ];
    rr:objectMap [ rr:column "ttl" ];
  ] .
```

ID	NUM	ttl
----	-----	-----

87	2616	Hypertext Transfer Protocol -- HTTP/1.1
88	2396	Uniform Resource Identifiers (URI): Generic Syntax

My\_table is a triplesmap, and there are two subjectMap. One is "https://www.ietf.org/rfc/rfc2616.txt" in objectMap Hypertext Transfer Protocol -- HTTP/1.1. The other is "https://www.ietf.org/rfc/rfc2396.txt" in objectMap Uniform Resource Identifiers (URI): Generic Syntax.

## Q7.2 What are the triples encoded in this HTML?

```
<div vocab="http://xmlns.com/foaf/0.1/" resource="#cathy"
typeof="Person">
  <p> <span property="name">Catherine Faron</span>
    (mail: <span property="mbox">faron@i3s.unice.fr</span>) is a
friend of
    <span property="knows"
resource="http://ns.inria.fr/fabien.gandon#me">Fabien Gandon</span>
  </p>
</div>
```

@prefix foaf: <http://xmlns.com/foaf/0.1/> .

Cathy is named catherine faton, whose email is faron@i3s.unice.fr. She is also a friend of Fabien Gandon.

## Q7.3 practice:

1. Look at the Web Page  
<https://www.w3.org/TR/xhtml-rdfa-scenarios/scenario-2.html>
2. Call the translator on this Web page to get Turtle:  
<http://rdf-translator.appspot.com/>
3. What does the extracted triple say?
4. Do the same with:  
[http://schema.org/docs/schema\\_org\\_rdfa.html](http://schema.org/docs/schema_org_rdfa.html)  
What kind of data is represented in that page?
5. Again, what are the different subjects described in RDFa in this page:  
<http://iricelino.org/rdfa/sample-annotated-page.html>

<https://www.w3.org/TR/xhtml-rdfa-scenarios/scenario-2.html> dc:creator "Paul"@en
HTML
<dbr:Baruch_Spinoza> a foaf:Person ;



```

<http://iricelino.org/rdfa/sample-annotated-page.html> cc:license <http://creativecommons.org/licenses/by-nc-sa/3.0/> ;
<http://iricelino.org/rdfa/sample-annotated-page.html#me> a foaf:Person ;
<urn:ISBN:0091808189> a <biblio:book> ;
<urn:ISBN:1596913614> a <biblio:book> ;
<dbr:Albert_Einstein> ns1:birthPlace <dbr:Germany> ;
<http://upload.wikimedia.org/wikipedia/commons/thumb/d/d3/Albert_Einstein_Head.jpg/460px-Albert_Einstein_Head.jpg> ;
<dbr:Arthur_Schopenhauer> a foaf:Person .
<http://example.org/blog/>
<dbr:Germany> ns1:conventionalLongName "Federal Republic of Germany"@en .

```

Q7.4 Use the online tool to play with RDFa adding for instance a “creator” property

<https://rdfa.info/play/>

<ANSWER HERE/>

Q7.5 IMDB uses RDFa – OGP for the I like button

1. Choose a movie on IMDB <http://www.imdb.com>
2. Copy the URL of the page of the movie
3. Go to the RDFa 1.0 RDFa Distiller and Parser:  
<https://www.w3.org/2007/08/pyRdfa/>
4. Open the URI option, past the URL of the movie page and configure and perform the extraction to get Turtle
5. Try also the transformation on the translator:  
<http://rdf-translator.appspot.com/>

```

<https://www.imdb.com/title/tt0111161/?pf_rd_m=A2FGELUUNOQJNL&pf_rd_p=e31d89dd-322d-4646-8962-327b42fe94b1&pf_rd_r=CVH1D4B6ZZVF5ADDPEXP&pf_rd_s=center-1&pf_rd_t=15506&pf_rd_i=top&ref_=chttp_tt_1> og:description "Directed by Frank Darabont. With Tim Robbins, Morgan Freeman, Bob Gunton, William Sadler. Two imprisoned men bond over a number of years, finding solace and eventual redemption through acts of common decency." ;

og:image "https://m.media-amazon.com/images/M/MV5BMDFkYTc0MGEtZmNhMC00ZDIzLWFmNTEtODM1ZmRIYWwMWFmXkEyXkFqcGdeQXVyMTMxODk2OTU@._V1_UY1200_CR89,0,630,1200_AL_.jpg" ;

og:site_name "IMDb" ;

og:title "The Shawshank Redemption (1994) - IMDb" ;

```

og:type "video.movie" ;

og:url "http://www.imdb.com/title/tt0111161/" ;

ns1:fbmlapp\_id "115109575169727" .

<https://www.imdb.com/title/tt0111161/?pf\_rd\_m=A2FGELUUNOQJNL&pf\_rd\_p=e31d89dd-322d-4646-8962-327b42fe94b1&pf\_rd\_r=CVH1D4B6ZZVF5ADDPEXP&pf\_rd\_s=center-1&pf\_rd\_t=15506&pf\_rd\_i=top&ref\_=chttp\_tt\_1#imdbHeader-navDrawerOpen> xhv:role xhv:button .

<https://www.imdb.com/title/tt0111161/?pf\_rd\_m=A2FGELUUNOQJNL&pf\_rd\_p=e31d89dd-322d-4646-8962-327b42fe94b1&pf\_rd\_r=CVH1D4B6ZZVF5ADDPEXP&pf\_rd\_s=center-1&pf\_rd\_t=15506&pf\_rd\_i=top&ref\_=chttp\_tt\_1#imdbHeader-searchClose> xhv:role xhv:button .

<https://www.imdb.com/title/tt0111161/?pf\_rd\_m=A2FGELUUNOQJNL&pf\_rd\_p=e31d89dd-322d-4646-8962-327b42fe94b1&pf\_rd\_r=CVH1D4B6ZZVF5ADDPEXP&pf\_rd\_s=center-1&pf\_rd\_t=15506&pf\_rd\_i=top&ref\_=chttp\_tt\_1#imdbHeader-searchOpen> xhv:role xhv:button .

<https://www.imdb.com/title/tt0111161/?pf\_rd\_m=A2FGELUUNOQJNL&pf\_rd\_p=e31d89dd-322d-4646-8962-327b42fe94b1&pf\_rd\_r=CVH1D4B6ZZVF5ADDPEXP&pf\_rd\_s=center-1&pf\_rd\_t=15506&pf\_rd\_i=top&ref\_=chttp\_tt\_1#nav-search-form> xhv:role xhv:search .

## Q7.6 Test JSON-LD online

1. Transform your FOAF profile in JSON-LD with the translator:  
<http://rdf-translator.appspot.com/>
2. Use the following online tool to generate different variations of JSON-LD of your profile (expanded, collapsed, flattened, etc.)  
<http://json-ld.org/playground/>

```
{
  "@context": {
    "admin": "http://webns.net/mvcb/",
    "foaf": "http://xmlns.com/foaf/0.1/",
    "rdf": "http://www.w3.org/1999/02/22-rdf-syntax-ns#",
    "rdfs": "http://www.w3.org/2000/01/rdf-schema#",
    "xsd": "http://www.w3.org/2001/XMLSchema#"
  },
  "@graph": [
```

```

{
  "@id": "#me",
  "@type": "foaf:Person",
  "foaf:family_name": "Wu",
  "foaf:givenname": "Ling-Hsuan",
  "foaf:mbox_sha1sum": "15f2c3de1d94078fe2a3bc11782289bc9a37a734",
  "foaf:name": "Ling-Hsuan Wu",
  "foaf:title": "Mrs"
},
{
  "@id": "",
  "@type": "foaf:PersonalProfileDocument",
  "admin:errorReportsTo": {
    "@id": "mailto:leigh@ldodds.com"
  },
  "admin:generatorAgent": {
    "@id": "http://www.ldodds.com/foaf/foaf-a-matic"
  },
  "foaf:maker": {
    "@id": "#me"
  },
  "foaf:primaryTopic": {
    "@id": "#me"
  }
}
]
}

```

```

[
  {
    "@id": "https://json-ld.org/playground/#me",
    "@type": [
      "http://xmlns.com/foaf/0.1/Person"
    ],
    "http://xmlns.com/foaf/0.1/family_name": [
      {
        "@value": "Wu"
      }
    ],
    "http://xmlns.com/foaf/0.1/givenname": [
      {
        "@value": "Ling-Hsuan"
      }
    ]
  }
]

```

```
],
"http://xmlns.com/foaf/0.1/mbox_sha1sum": [
  {
    "@value": "15f2c3de1d94078fe2a3bc11782289bc9a37a734"
  }
],
"http://xmlns.com/foaf/0.1/name": [
  {
    "@value": "Ling-Hsuan Wu"
  }
],
"http://xmlns.com/foaf/0.1/title": [
  {
    "@value": "Mrs"
  }
]
},
{
  "@id": "https://json-ld.org/playground/",
  "@type": [
    "http://xmlns.com/foaf/0.1/PersonalProfileDocument"
  ],
  "http://webns.net/mvcb/errorReportsTo": [
    {
      "@id": "mailto:leigh@ldodds.com"
    }
  ],
  "http://webns.net/mvcb/generatorAgent": [
    {
      "@id": "http://www.ldodds.com/foaf/foaf-a-matic"
    }
  ],
  "http://xmlns.com/foaf/0.1/maker": [
    {
      "@id": "https://json-ld.org/playground/#me"
    }
  ],
  "http://xmlns.com/foaf/0.1/primaryTopic": [
    {
      "@id": "https://json-ld.org/playground/#me"
    }
  ]
}
```

```
}  
]
```

Q7.7 To provide the metadata of a CSV file I can...

- ☐ include them in a special column of the CSV.
- ☐ put them in a file with the same name plus “-metadata.json”.
- ☐ put them in the first line of my CSV file.
- ☐ put them in a file called “csv-metadata.json” in the same directory.
- ☐ add the URL of the metadata file to the content of my CSV file.

2, 4

Q7.8 TV Catalog : Imagine we submit the following call to an LDP platform

```
GET /catalog/tv/ HTTP/1.1
```

```
Host: example.org
```

```
Accept: text/turtle; charset=UTF-8
```

and we receive the following answer:

```
HTTP/1.1 200 OK
```

```
Content-Type: text/turtle; charset=UTF-8
```

```
Link: <http://www.w3.org/ns/ldp#Resource>; rel="type",
```

```
<http://www.w3.org/ns/ldp#DirectContainer>; rel="type"
```

```
Allow: OPTIONS,HEAD,GET,POST,PUT
```

```
Accept-Post: text/turtle, application/ld+json
```

```
Content-Length: 232
```

```
ETag: W/"90231678"
```

```
@prefix ldp: <http://www.w3.org/ns/ldp#> .
```

```
@prefix dcterms: <http://purl.org/dc/terms/> .
```

```
@prefix cat: <http://example.org/vocab/catalog#> .
```

```
<> a ldp:DirectContainer; ldp:membershipResource <#cat>;
```

```
ldp:hasMemberRelation cat:hasProduct;
```

```
    dcterms:title "Container of the TV descriptions";
```

```
    ldp:contains <tv1>, <tv2> .
```

```
<#cat> a cat:Catalog; dcterms:title "Catalog of TVs"; cat:hasProduct <tv1>,  
<tv2> .
```

Which ones of the following statements are true?

- ☐ the container is just a basic container.
- ☐ the container is a direct container.
- ☐ the container is an indirect container.
- ☐ the platform accepts the GET calls.
- ☐ the platform accepts the PATCH calls.
- ☐ the platform accepts RDF/XML format.
- ☐ the platform accepts RDF Turtle.
- ☐ the platform accepts RDF JSON-LD.
- ☐ a link `hasProduct` is automatically created between the resource `#cat` and the resources of this container

2, 4, 7, 8, 9