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 .
```

Answer

2 prefer label in English (can only have one) so one of them should be alteLabel.

Q6.2 practice:

1. Using the site 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

Answer

narrowMatch is inverse of broadMatch.
It has super-properties of “mappingRelation” and “narrower”

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?

Answer

Examples include the formats defined by the list of Internet Media Types. It’s a subclass of MediaType

```
@prefix rdf:<http://www.w3.org/1999/02/22-rdf-syntax-ns#>.
@prefix dc:<http://purl.org/dc/elements/1.1/>.
@prefix dcterms:<http://purl.org/dc/terms/>.
@prefix cc:<http://creativecommons.org/ns#>.


<https://www.allenandunwin.com/browse/books/general-books/self-help-
practical/The-Courage-to-be-Disliked-Ichiro-Kishimi-and-Fumitake-Koga-
9781760630492>
    dc:creator <http://ns.inria.fr/fumitake.koga#me>,
    <http://ns.inria.fr/ichiro.kishimi#me>;
    dc:title "The Courage to be Disliked" ;
    cc:license [a cc:License;
        cc:permits cc:DerivativeWorks, cc:Distribution;
        cc:requires cc:Attribution, cc:Notice, cc:ShareAlike];
    dc:language "en";
    dc:subject "RDF, RDFS, SPARQL, OWL, SKOS";
    dc:date "2017 05 01" ;
    dc:publisher <https://www.allenandunwin.com/>;
    dc:format "text /html";
    dc:type dcterms:Text.
```

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?

Answer

3: it's a ObjectProperty, inverseFunctionalProperty
4: (subPropertyOf) Inherit from home page
5: Domain: Agent, Range: 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/

Answer

```
@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#> .
@prefix rel: <http://vocab.org/relationship/>.

<http://ns.inria.fr/yuhsuan.ting> a foaf:PersonalProfileDocument ;
    foaf:maker <http://ns.inria.fr/yuhsuan.ting#me> ;
    foaf:primaryTopic <http://ns.inria.fr/yuhsuan.ting#me> .

<http://ns.inria.fr/yuhsuan.ting#me> a foaf:Person ;
    foaf:depiction <http://www-
sop.inria.fr/members/yuhsuan.ting/common/FabienGandonBackground.jpg> ;
    foaf:family_name "TING" ;
    foaf:givenname "Yu-Hsuan" ;
    foaf:homepage <http://yuhsuan.info> ;
    foaf:knows [ a foaf:Person ;
            rdfs:seeAlso <http://ns.inria.fr/romain.poupon#me> ;
            foaf:mbox <romain.poupon@polytech.unice.fr> ;
            foaf:name "Romain Poupon" ],
        [ a foaf:Person ;
            rdfs:seeAlso <http://ns.inria.fr/alix#me> ;
            foaf:mbox <alix@inria.fr> ;
            foaf:name "Alix" ] ;
    foaf:mbox <mailto:yuhsuan.ting@inria.fr> ;
    foaf:name "Yu-Hsuan TING" ;
    foaf:nick "Sandy" ;
    foaf:phone <http://ns.inria.fr/tel:0640305607> ;
    foaf:schoolHomepage <http://www.insa-rouen.fr> ;
    foaf:title "Student" ;
    foaf:workInfoHomepage <http://yuhsuan.info> ;
    foaf:workplaceHomepage <http://www.inria.fr/> ;
    rel:closeFriendOf <http://ns.inria.fr/romain.poupon#me>;
    rel:childOf <http://ns.inria.fr/angela#me>;
    rel:colleagueOf <http://ns.inria.fr/alix#me>;
    rel:siblingOf <http://ns.inria.fr/kai#me>;
    rel:siblingOf <http://ns.inria.fr/kerri#me>.
```

Q6.6 What does this mean?

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

Answer

: BioRDF2DBLP is a link between dataset (BioRDF, DBLP). The predicate for the link is skos:exactMatch. It contains 8936 triples.

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.

Answer

to get all the dataset sparqlendpoint

```
Select * where{
?x rdfs:label "DBpedia-fr".
?x ?y ?z}
```

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" .
```

Answer

Plot is using data stats1998. Bar-chart is generated by plot. Stats1998 is a distribution in format csv

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 .
```

Answer

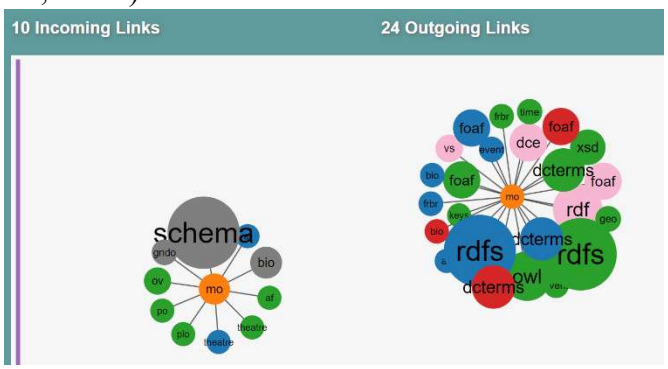
:db-employ is a a dcat:distribution can be found http://wimmics.inria.fr/docs/employ-2014.sql. It has title. Spatial location, issue date, temporal, publisher, SQL format, language is in fr, and the byteSize of it. FoafDump is a XML dataset, it can be found <http://ns.inria.fr/fabien.gandon#me> use the vocabulary foaf, number of triples, the title. It was generated by R2RTransform12 at 2015-01-14T11:38:27
Which we know that :R2RTransform12 is using db:employ, R2R-employee-mapping and http://xmlns.com/foaf/0.1/ as input.

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)

Answer

3: mo (mo:MusicArtist)
4: 2.1.5
5: yes (there are many outgoing link)
6: 13
7: RDF, 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

Answer

https://www.ietf.org/rfc/rfc{2616} dc:title “Hypertext Transfer Protocol -- HTTP/1.1”
https://www.ietf.org/rfc/rfc{2396} dc:title “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>
```

Answer

@prefix n2: < http://xmlns.com/foaf/0.1/">
<#cathy> a rdf:Person;
<#cathy> n2:name “Catherine Faron”;
<#cathy> n2:mbox < faron@i3s.unice.fr >;
<#cathy> n2:knows http://ns.inria.fr/fabien.gandon#me.

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
   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

Answer

3: Creator is Paul
4: lots of classes, it’s a ontology in HTML format
5:Creator, titles about this page
A person (Giovanni) information
2 books (Canteen Cuisine and White’s autobiography)
Albert Einstein information
A person Arthur_schopenhauer
blog

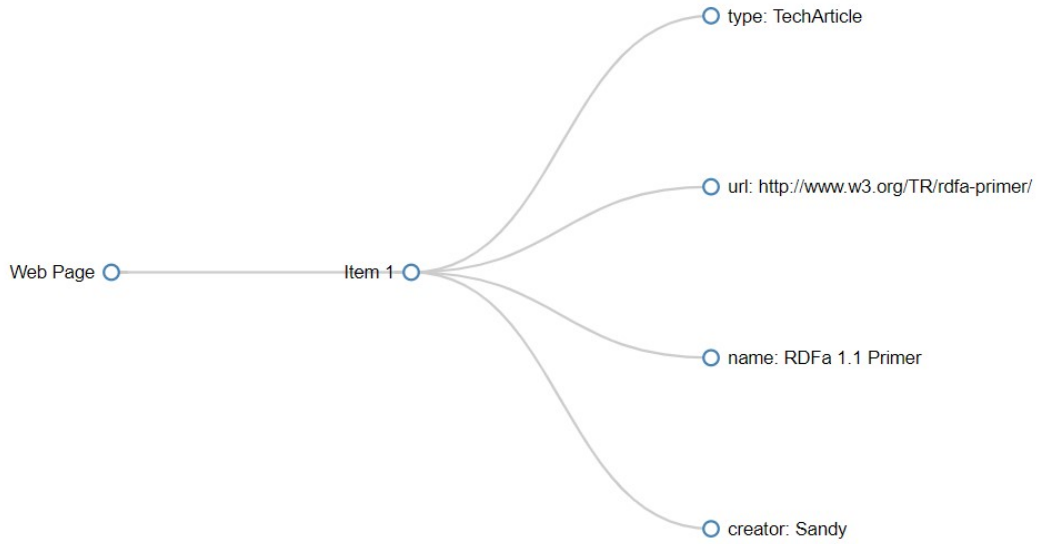
Q7.4 Use the online tool to play with RDFa adding for instance a “creator” property

https://rdfa.info/play/

Answer

```
<a property="url" href="http://www.w3.org/TR/rdfa-primer/">
```

```
    <span property="name">RDFa 1.1 Primer</span>
    <span property= "creator">Sandy</span></a>.
</span>
```



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/

Answer

```
@prefix fb: <http://www.facebook.com/2008/fbml> .
@prefix ns1: <http://www.facebook.com/2008/> .
@prefix og: <http://ogp.me/ns#> .
@prefix rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#> .
@prefix rdfs: <http://www.w3.org/2000/01/rdf-schema#> .
@prefix xlink: <http://www.w3.org/1999/xlink> .
@prefix xml: <http://www.w3.org/XML/1998/namespace> .
@prefix xsd: <http://www.w3.org/2001/XMLSchema#> .

<https://www.imdb.com/showtimes/title/tt9811374?ref_=sh_ov_tt>
og:description "Find Inséparables showtimes for local movie theaters." ;
    og:image "https://m.media-
amazon.com/images/M/MV5BNmY3MGZkNTktOWI2Ni00ZmIxLWFjM2YtZmU5Yzg2YTE1Y2M0XkE
yXkFqcGdeQXVyODIyOTEyMzY@._V1_UY1200_CR127,0,630,1200_AL_.jpg" ;
    og:site_name "IMDb" ;
    og:title "Inséparables Showtimes - IMDb" ;
    og:url "http://www.imdb.com/showtimes/title/tt9811374" ;
    ns1:fbmlapp_id "115109575169727" .
```

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/

Answer

```
{
  "@graph": [
```

```
    {
      "@id": "_:b0",
      "@type": "http://xmlns.com/foaf/0.1/Person",
      "http://www.w3.org/2000/01/rdf-schema#seeAlso": {
        "@id": "http://ns.inria.fr/alix#me"
      },
      "http://xmlns.com/foaf/0.1/mbox": {
        "@id": "file:///base/data/home/apps/s%7Erdf-
translator/2.408516547054015808/alix@inria.fr"
      },
      "http://xmlns.com/foaf/0.1/name": "Alix"
    },
    {
      "@id": "_:b1",
      "@type": "http://xmlns.com/foaf/0.1/Person",
      "http://www.w3.org/2000/01/rdf-schema#seeAlso": {
        "@id": "http://ns.inria.fr/romain.poupon#me"
      },
      "http://xmlns.com/foaf/0.1/mbox": {
        "@id": "file:///base/data/home/apps/s%7Erdf-
translator/2.408516547054015808/romain.poupon@polytech.unice.fr"
      },
      "http://xmlns.com/foaf/0.1/name": "Romain Poupon"
    },
    {
      "@id": "http://ns.inria.fr/yuhsuan.ting",
      "@type": "http://xmlns.com/foaf/0.1/PersonalProfileDocument",
      "http://xmlns.com/foaf/0.1/maker": {
        "@id": "http://ns.inria.fr/yuhsuan.ting#me"
      },
      "http://xmlns.com/foaf/0.1/primaryTopic": {
        "@id": "http://ns.inria.fr/yuhsuan.ting#me"
      }
    },
    {
      "@id": "http://ns.inria.fr/yuhsuan.ting#me",
      "@type": "http://xmlns.com/foaf/0.1/Person",
      "http://vocab.org/relationship/childOf": {
        "@id": "http://ns.inria.fr/angela#me"
      },
      "http://vocab.org/relationship/closeFriendOf": {
        "@id": "http://ns.inria.fr/romain.poupon#me"
      },
      "http://vocab.org/relationship/colleagueOf": {
        "@id": "http://ns.inria.fr/alix#me"
      },
      "http://vocab.org/relationship/siblingOf": [
        {
          "@id": "http://ns.inria.fr/kai#me"
        },
        {
          "@id": "http://ns.inria.fr/kerri#me"
        }
      ],
      "http://xmlns.com/foaf/0.1/depiction": {
        "@id": "http://www-sop.inria.fr/members/yuhsuan.ting/common/FabienGandonBackground.jpg"
      },
      "http://xmlns.com/foaf/0.1/family_name": "TING",
      "http://xmlns.com/foaf/0.1/givenname": "Yu-Hsuan",
      "http://xmlns.com/foaf/0.1/homepage": {
        "@id": "http://yuhsuan.info"
      },
      "http://xmlns.com/foaf/0.1/knows": [
        {
          "@id": "_:b0"
        },
        {
          "@id": "_:b1"
        }
      ],
      "http://xmlns.com/foaf/0.1/mbox": {
        "@id": "mailto:yuhsuan.ting@inria.fr"
      },
      "http://xmlns.com/foaf/0.1/name": "Yu-Hsuan TING",
      "http://xmlns.com/foaf/0.1/nick": "Sandy",
```

```
      "http://xmlns.com/foaf/0.1/phone": {
        "@id": "http://ns.inria.fr/tel:0640305607"
      },
      "http://xmlns.com/foaf/0.1/schoolHomepage": {
        "@id": "http://www.insa-rouen.fr"
      },
      "http://xmlns.com/foaf/0.1/title": "Student",
      "http://xmlns.com/foaf/0.1/workInfoHomepage": {
        "@id": "http://yuhsuan.info"
      },
      "http://xmlns.com/foaf/0.1/workplaceHomepage": {
        "@id": "http://www.inria.fr/"
      }
    }
  ]
}
```

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

1. include them in a special column of the CSV.
2. put them in a file with the same name plus "-metadata.json".
3. put them in the first line of my CSV file.
4. put them in a file called "csv-metadata.json" in the same directory.
5. add the URL of the metadata file to the content of my CSV file.

Answer

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?

1. the container is just a basic container.
2. the container is a direct container.
3. the container is an indirect container.
4. the platform accepts the GET calls.
5. the platform accepts the PATCH calls. (no)
6. the platform accepts RDF/XML format. (jsonld, turtle)
7. the platform accepts RDF Turtle.
8. the platform accepts RDF JSON-LD.
9. a link `hasProduct` is automatically created between the resource #cat and the resources of this container

Answer

2 4 7 8 9