

TD Introduction au WEB sémantique.

POLYTECH. 5^{ème} année

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Feuille de T. D. 6 : Interrogation avec SPARQL

PREFIXES

```
PREFIX test: <file:///Users/odile/OntologyTP/ontology/pizza_1.owl#>
```

```
PREFIX rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#>
```

```
PREFIX rdfs: <http://www.w3.org/2000/01/rdf-schema#>
```

```
PREFIX owl: <http://www.w3.org/2002/07/owl#>
```

SELECT * WHERE

```
{?pi test:hasDiameter ?d .
```

```
}
```

%%%%%%%%%

```
PREFIX test: <file:///Users/odile/OntologyTP/ontology/pizza_1.owl#>
```

```
PREFIX rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#>
```

```
PREFIX rdfs: <http://www.w3.org/2000/01/rdf-schema#>
```

```
PREFIX owl: <http://www.w3.org/2002/07/owl#>
```

SELECT DISTINCT ?pizza

WHERE {

```
?pizza rdfs:subClassOf pizza:NamedPizza .
```

```
?pizza rdfs:subClassOf ?htopping .
```

```
?htopping owl:onProperty pizza:hasTopping .
```

```
?htopping owl:someValuesFrom ?topping .
```

```
?topping rdfs:subClassOf pizza:CheeseTopping .
```

```
}
```

%%%%%%%%%

creation d'ontologie PROTEGE

dans ONtology IRI file:///Users /odile/OntologyTP/ontology/nom-file.owl

```
%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
%POUR TESTER : mon ontologie cree sous Protg dans odile/OntologyTP
%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
```

```
Ontology IRI      file:///Users /odile/OntologyTP/ontology/sise.owl
```

```
%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
%Marche sous PROTEGE
%R0
PREFIX test: <file:///Users/odile/OntologyTP/ontology/sise.owl#>
PREFIX rdf:<http://www.w3.org/1999/02/22-rdf-syntax-ns#>
PREFIX rdfs:<http://www.w3.org/2000/01/rdf-schema#>
PREFIX owl:<http://www.w3.org/2002/07/owl#>
```

```
SELECT ?N
WHERE {?C test:nom ?X; test:enseigne_par ?P.
?P test:nom ?N
FILTER (?X = "Web semantique")}
}
```

```
%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
%Marche sous PROTEGE
%R1
%Quel est le nom de l'enseignant du cours "Anglais" ?
PREFIX test: <file:///Users/odile/OntologyTP/ontology/sise.owl#>
PREFIX rdf:<http://www.w3.org/1999/02/22-rdf-syntax-ns#>
PREFIX rdfs:<http://www.w3.org/2000/01/rdf-schema#>
PREFIX owl:<http://www.w3.org/2002/07/owl#>
```

```
SELECT ?N ?X
WHERE {?C test:nom ?X; test:enseigne_par ?P.
?P test:nom ?N
FILTER (?X = "Anglais")}
}
%
```

```
%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
%R2
% Quels sont les pr-requis (nom des cours) demands pour le cours "Web semantique"
PREFIX test: <file:///Users/odile/OntologyTP/ontology/sise.owl#>
PREFIX rdf:<http://www.w3.org/1999/02/22-rdf-syntax-ns#>
```

```

PREFIX rdfs:<http://www.w3.org/2000/01/rdf-schema#>
PREFIX owl:<http://www.w3.org/2002/07/owl#>

SELECT ?X ?Y
WHERE {
?A test:nom ?X.
?B test:prerequis ?A.
?B test:nom ?Y.
FILTER (?X = "Web semantique")
}
%
%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
%R3
%Quelles sont les classes avec la proprié nom ?
PREFIX test: <file:///Users/odile/OntologyTP/ontology/sise.owl#>
PREFIX rdf:<http://www.w3.org/1999/02/22-rdf-syntax-ns#>
PREFIX rdfs:<http://www.w3.org/2000/01/rdf-schema#>
PREFIX owl:<http://www.w3.org/2002/07/owl#>

SELECT ?C
WHERE { test:nom rdfs:domain ?C.
}
%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
%R4
% Quelles sont les instances de classes avec la proprié nom ?
PREFIX test: <file:///Users/odile/OntologyTP/ontology/sise.owl#>
PREFIX rdf:<http://www.w3.org/1999/02/22-rdf-syntax-ns#>
PREFIX rdfs:<http://www.w3.org/2000/01/rdf-schema#>
PREFIX owl:<http://www.w3.org/2002/07/owl#>

SELECT ?C
WHERE {?C test:nom ?N.
}

%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
%Rsup1 : les instances de la classe cours
PREFIX test: <file:///Users/odile/OntologyTP/ontology/sise.owl#>
PREFIX rdf:<http://www.w3.org/1999/02/22-rdf-syntax-ns#>
PREFIX rdfs:<http://www.w3.org/2000/01/rdf-schema#>
PREFIX owl:<http://www.w3.org/2002/07/owl#>

```

```

SELECT ?A
WHERE {?A test:nom ?X.
?A rdf:type test:Cours.
}
%
%%%%%%%%%%%%%%
%R5
% Quels sont les cours avec leurs pr-requis (si prsents) ?
PREFIX test: <file:///Users/odile/OntologyTP/ontology/sise.owl#>
PREFIX rdf:<http://www.w3.org/1999/02/22-rdf-syntax-ns#>
PREFIX rdfs:<http://www.w3.org/2000/01/rdf-schema#>
PREFIX owl:<http://www.w3.org/2002/07/owl#>

```

```

SELECT ?X ?Y
WHERE {
?A rdf:type test:Cours.
OPTIONAL { ?B test:prerequis ?A. ?B test:nom ?Y. ?A test:nom ?X.}
}
%
%%%%%%%%%%%%%%
%R6

```

```

%Quels sont les noms des enseignants qui enseignent deux cours diffrents ?
PREFIX test: <file:///Users/odile/OntologyTP/ontology/sise.owl#>
PREFIX rdf:<http://www.w3.org/1999/02/22-rdf-syntax-ns#>
PREFIX rdfs:<http://www.w3.org/2000/01/rdf-schema#>
PREFIX owl:<http://www.w3.org/2002/07/owl#>

```

```

SELECT DISTINCT ?X
WHERE { ?B test:enseigne_par ?A.
?C test:enseigne_par ?A.
?A test:nom ?X.
FILTER (?B != ?C)
}
%
%%%%%%%%%%%%%%
%R7

```

```

% Quels sont les noms des tudians qui suivent deux cours diffrents du mme enseign
PREFIX test: <file:///Users/odile/OntologyTP/ontology/sise.owl#>
PREFIX rdf:<http://www.w3.org/1999/02/22-rdf-syntax-ns#>

```

```

PREFIX rdfs:<http://www.w3.org/2000/01/rdf-schema#>
PREFIX owl:<http://www.w3.org/2002/07/owl#>

SELECT DISTINCT ?X
WHERE { ?B test:enseigne_par ?A.
?C test:enseigne_par ?A.
?E test:inscrit_dans ?B; test:inscrit_dans ?C.
?E test:nom ?X.
FILTER (?B != ?C)
}
%
%%%%%%%%%%%%%%
%R8
%Quels sont les noms des cours sans pr-requis ?
PREFIX test: <file:///Users/odile/OntologyTP/ontology/sise.owl#>
PREFIX rdf:<http://www.w3.org/1999/02/22-rdf-syntax-ns#>
PREFIX rdfs:<http://www.w3.org/2000/01/rdf-schema#>
PREFIX owl:<http://www.w3.org/2002/07/owl#>

PREFIX test: <file:///Users/odile/OntologyTP/ontology/sise.owl#>
PREFIX rdf:<http://www.w3.org/1999/02/22-rdf-syntax-ns#>
PREFIX rdfs:<http://www.w3.org/2000/01/rdf-schema#>
PREFIX owl:<http://www.w3.org/2002/07/owl#>

SELECT DISTINCT ?X
WHERE { ?A test:nom ?X ; rdf:type test:Cours.
OPTIONAL{ ?B test:prerequis ?A}
FILTER(!BOUND(?B))
}

```