

CO7216 Semantic Web

Surgery 4 Model Solutions

Exercise - SPARQL:

Answers:

```
(1)
PREFIX uol: <http://www.cs.le.ac.uk/rdf#>
SELECT ?name ?email
WHERE
{
  ?l a uol:Lecturer.
  ?l uol:teach uol:CO7216.
  ?l uol:has_full_name ?name.
  OPTIONAL { ?l uol:has_email ?email }
}
```

```
(2)
PREFIX uol: <http://www.cs.le.ac.uk/rdf#>
SELECT ?student
WHERE
{
  ?student uol:study ?module.
  uol:L2 uol:teach ?module.
}
```

```
(3)
PREFIX uol: <http://www.cs.le.ac.uk/rdf#>
SELECT ?p
WHERE {
  ?p a uol:Student.
  ?p uol:has_age ?age .
  FILTER (?age<30)
}ORDER BY ?age
```

```
(4)
PREFIX uol: <http://www.cs.le.ac.uk/rdf#>
SELECT ?lecturer (COUNT(DISTINCT ?module) as ?c)
WHERE
{
  ?lecturer uol:teach ?module.
} GROUP BY ?lecturer
```

```
(5)
PREFIX uol: <http://www.cs.le.ac.uk/rdf#>
PREFIX rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#>
PREFIX rdfs: <http://www.w3.org/2000/01/rdf-schema#>
```

```

SELECT ?instance
WHERE
{
  ?instance rdf:type ?class.
  ?class rdfs:subClassOf uol:Person
}

```

(6)

```

PREFIX uol: <http://www.cs.le.ac.uk/rdf#>
PREFIX rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#>
PREFIX rdfs: <http://www.w3.org/2000/01/rdf-schema#>

```

```

SELECT ?property ?value
WHERE
{
  ?property rdfs:domain uol:Person.
  uol:s1 ?property ?value
}

```

(7)

```

PREFIX uol: <http://www.cs.le.ac.uk/rdf#>
SELECT ?module (count(?student) as ?student_count)
WHERE{
  uol:L1 uol:teach ?module.
  ?student uol:study ?module.

} GROUP BY ?module

```