In this experiment, you will see an OWL axiom(in Manchester OWL syntax) and it's verbalization. Below there are five instances of the class described by the axiom. Four of them wrong and one correct.

Please select the correct instance.

The instances are described by triples. If you're not an expert, you'll only see some 'facts' about the instance.

First you see some triples describing overall information that might be necessary to decide which instance is the correct one.

For example, you might see an axiom like: 'Every pupil is a person that goes to school.' This axiom describes the class 'pupil'. Below there might be an instance 'Anna' with additional information, e.g. that 'Anna is a person.' and that 'Anna goes to school.'. In this case, 'Anna' would be the correct instance of the class 'pupil'.

Varianta 1.

Axiom: **Axiom: KoalaWithPhD EquivalentTo Koala and (hasDegree value PhD)**

Verbalization: Every koala with PhD is a koala that has degree PhD.

|  |  |
| --- | --- |
| **Triple** | **Verbalization** |
| :BA rdf:type :Degree | BA is a degree. |
| :MA rdf:type :Degree | MA is a degree. |

**BigKoala**

|  |  |
| --- | --- |
| **Triple** | **Verbalization** |
| :BigKoala rdf:type :Animal | Big Koala is an animal. |
| :BigKoala :hasDegree :PhD | Big Koala has degree PhD. |

**HugeKoala**

|  |  |
| --- | --- |
| **Triple** | **Verbalization** |
| :HugeKoala rdf:type :Animal | Huge Koala is an animal. |
| :HugeKoala :hasDegree :PhD | Huge Koala has degree PhD. |
| :HugeKoala :hasHabitat :ThatOneVeryDryEucalyptForest | Huge Koala has habitat That One Very Dry Eucalypt Forest. |

**Freddie**

|  |  |
| --- | --- |
| **Triple** | **Verbalization** |
| :Freddie rdf:type :Koala | Freddie is a koala. |
| :Freddie :hasDegree :BA | Freddie has degree BA. |
| :Freddie :hasDegree :PhD | Freddie has degree PhD. |
| :Freddie :hasGender :male | Freddie has gender male. |

**NiceKoala**

|  |  |
| --- | --- |
| **Triple** | **Verbalization** |
| :NiceKoala rdf:type :Koala | Nice Koala is a koala. |
| :NiceKoala :hasDegree :MA | Nice Koala has degree MA. |
| :NiceKoala :hasHabitat :ThatOneVeryDryEucalyptForest | Nice Koala has habitat That One Very Dry Eucalypt Forest. |

**SmallKoala**

|  |  |  |
| --- | --- | --- |
| **Triple** | | **Verbalization** |
| :SmallKoala rdf:type :Koala | | Small Koala is a koala. |
| :SmallKoala :hasDegree :BA | | Small Koala has degree BA. |
| :SmallKoala :hasDegree :MA | | Small Koala has degree MA. |
| Select: |  |
|  |  |
|  | BigKoala |
|  | HugeKoala |
|  | Freddie |
|  | NiceKoala |
|  | SmallKoala |

Varianta 2.

Axiom: **Axiom: MaleStudentWith2Daughters EquivalentTo Student and (hasChildren only Female) and (hasGender value male) and (hasChildren exactly 2 Thing)**

Verbalization: Every male student with three daughters is a student that has gender male and that has exactly two children that are a female.

|  |  |
| --- | --- |
| **Triple** | **Verbalization** |
| :Carla rdf:type :Person | Carla is a person. |
| :Carla :hasGender :female | Carla has gender female. |
| :Caroline rdf:type :Person | Caroline is a person. |
| :Caroline :hasGender :female | Caroline has gender female. |
| :Freddie rdf:type :Koala | Freddie is a koala. |
| :Freddie :hasGender :male | Freddie has gender male. |
| :Marie rdf:type :Person | Marie is a person. |
| :Marie :hasGender :female | Marie has gender female. |
| :UniLeipzig rdf:type :University | Uni Leipzig is an university. |

**Lena**

|  |  |
| --- | --- |
| **Triple** | **Verbalization** |
| :Lena rdf:type :Person | Lena is a person. |
| :Lena :hasChildren :Carla | Lena has children Carla. |
| :Lena :hasChildren :Caroline | Lena has children Caroline. |
| :Lena :hasChildren :Marie | Lena has children Marie. |
| :Lena :isHardWorking true^^http://www.w3.org/2001/XMLSchema#boolean | Lena is hard working. |

**Nicole**

|  |  |
| --- | --- |
| **Triple** | **Verbalization** |
| :Nicole rdf:type :Student | Nicole is a student. |
| :Nicole :hasChildren :Carla | Nicole has children Carla. |
| :Nicole :hasChildren :Caroline | Nicole has children Caroline. |
| :Nicole :hasChildren :Marie | Nicole has children Marie. |
| :Nicole :hasGender :female | Nicole has gender female. |

**Harold**

|  |  |
| --- | --- |
| **Triple** | **Verbalization** |
| :Harold rdf:type :Student | Harold is a student. |
| :Harold :hasChildren :Carla | Harold has children Carla. |
| :Harold :hasChildren :Caroline | Harold has children Caroline. |
| : Harold :hasGender :male | Harold has gender male. |

**John**

|  |  |
| --- | --- |
| **Triple** | **Verbalization** |
| :John rdf:type :Student | John is a student. |
| :John :hasChildren :Carla | John has children Carla. |
| :John :hasChildren :Caroline | John has children Caroline. |
| :John :hasChildren :Marie | John has children Marie. |

**Jack**

|  |  |  |
| --- | --- | --- |
| **Triple** | | **Verbalization** |
| :Jack rdf:type :Person | | Jack is a person. |
| :Jack :hasChildren :Carla | | Jack has children Carla. |
| :Jack :hasChildren :Caroline | | Jack has children Caroline. |
| :Jack :hasChildren :Marie | | Jack has children Marie. |
| :Jack :hasHabitat :UniLeipzig | | Jack has habitat Uni Leipzig. |
| Seelect |  |
|  | Lena |
|  | Nicole |
|  | Harold |
|  | John |
|  | Jack |

Varianta 3.

Axiom: **Axiom: Parent EquivalentTo Animal and (hasChildren min 1 Thing)**

Verbalization: Every parent is an animal that has at least one child.

|  |  |
| --- | --- |
| **Triple** | **Verbalization** |
| :Leipzig rdf:type :City | Leipzig is a city. |
| :ThatOneVeryDryEucalyptForest rdf:type :DryEucalyptForest | That One Very Dry Eucalypt Forest is a dry eucalypt forest. |
| :Felix rdf:type :Person | Felix is a person. |
| :Freddie rdf:type :Koala | Freddie is a koala. |
| :Freddie :hasGender :male | Freddie has gender male. |
| :NiceKoala rdf:type :Koala | Nice Koala is a koala. |

**Otto**

|  |  |
| --- | --- |
| **Triple** | **Verbalization** |
| :Otto rdf:type :Animal | Otto is an animal. |
| :Otto :hasHabitat :ThatOneVeryDryEucalyptForest | Otto has habitat That One Very Dry Eucalypt Forest. |

**James**

|  |  |
| --- | --- |
| **Triple** | **Verbalization** |
| :James rdf:type :Person | James is a person. |

**Philipp**

|  |  |
| --- | --- |
| **Triple** | **Verbalization** |
| :Philipp rdf:type :Animal | Philipp is an animal. |
| : Philipp :hasChildren :Felix | Philipp has children Felix. |

**Kendrick**

|  |  |
| --- | --- |
| **Triple** | **Verbalization** |
| :Kendrick rdf:type : Person | Kendrick is a person. |
| :Kendrick :hasChildren :Freddie | Kendrick has children Freddie. |
| :Kendrick :hasChildren :NiceKoala | Kendrick has children Nice Koala. |

**Anna**

|  |  |  |
| --- | --- | --- |
| **Triple** | | **Verbalization** |
| :Anna rdf:type :Person | | Anna is a person. |
| :Anna :hasHabitat :Leipzig | | Anna has habitat Leipzig. |
| :Anna :isHardWorking true^^http://www.w3.org/2001/XMLSchema#boolean | | Anna is hard working. |
| Select |  |
|  | Otto |
|  | James |
|  | Philipp |
|  | Kendrick |
|  | Anna |

Varianta 4.

Axiom: **Axiom: Student EquivalentTo Person and (hasHabitat some University) and (isHardWorking value true)**

Verbalization: Every student is a person that has as habitat an university and that is hard working.

|  |  |
| --- | --- |
| **Triple** | **Verbalization** |
| :Leipzig rdf:type :City | Leipzig is a city. |
| :UniTuebingen rdf:type :University | Uni Tuebingen is an university. |
| :UniLeipzig rdf:type :University | Uni Leipzig is an university. |

**Jenna**

|  |  |
| --- | --- |
| **Triple** | **Verbalization** |
| :Jenna rdf:type :Person | Jenna is a person. |
| :Jenna :hasHabitat :UniLeipzig | Jenna has habitat Uni Leipzig. |

**Anna**

|  |  |
| --- | --- |
| **Triple** | **Verbalization** |
| :Anna rdf:type :Person | Anna is a person. |
| :Anna :hasHabitat :Leipzig | Anna has habitat Leipzig. |
| :Anna :isHardWorking true^^http://www.w3.org/2001/XMLSchema#boolean | Anna is hard working. |

**Marvin**

|  |  |
| --- | --- |
| **Triple** | **Verbalization** |
| :Marvin rdf:type : Person | Marvin is a person. |
| :Marvin :hasHabitat :UniTuebingen | Marvin has habitat Uni Tuebingen. |
| :Marvin :isHardWorking true^^http://www.w3.org/2001/XMLSchema#boolean | Marvin is hard working. |

**Kim**

|  |  |
| --- | --- |
| **Triple** | **Verbalization** |
| :Kim :hasHabitat :UniLeipzig | Kim has habitat Uni Leipzig. |
| :Kim :isHardWorking true^^http://www.w3.org/2001/XMLSchema#boolean | Kim is hard working. |

**Felix**

|  |  |  |
| --- | --- | --- |
| **Triple** | | **Verbalization** |
| :Felix rdf:type :Person | | Felix is a person. |
| :Felix :hasHabitat :UniLeipzig | | Felix has habitat Uni Leipzig. |
| :Felix :isHardWorking false^^http://www.w3.org/2001/XMLSchema#boolean | | Felix is not hard working. |
| Select: |  |
|  | Jenna |
|  | Anna |
|  | Marvin |
|  | Kim |
|  | Felix |

Varianta 5.

Axiom: **Axiom: KoalaWithMA EquivalentTo Koala and (hasDegree value MA)**

Verbalization: Every koala with MA is a koala that has degree MA.

|  |  |
| --- | --- |
| **Triple** | **Verbalization** |
| :BA rdf:type :Degree | BA is a degree. |
| :MA rdf:type :Degree | MA is a degree. |

**BigKoala**

|  |  |
| --- | --- |
| **Triple** | **Verbalization** |
| :BigKoala rdf:type :Animal | Big Koala is an animal. |
| :BigKoala :hasDegree :PhD | Big Koala has degree PhD. |

**HugeKoala**

|  |  |
| --- | --- |
| **Triple** | **Verbalization** |
| :HugeKoala rdf:type :Animal | Huge Koala is an animal. |
| :HugeKoala :hasDegree :PhD | Huge Koala has degree PhD. |
| :HugeKoala :hasHabitat :ThatOneVeryDryEucalyptForest | Huge Koala has habitat That One Very Dry Eucalypt Forest. |

**Freddie**

|  |  |
| --- | --- |
| **Triple** | **Verbalization** |
| :Freddie rdf:type :Koala | Freddie is a koala. |
| :Freddie :hasDegree :BA | Freddie has degree BA. |
| :Freddie :hasDegree :PhD | Freddie has degree PhD. |
| :Freddie :hasGender :male | Freddie has gender male. |

**NiceKoala**

|  |  |
| --- | --- |
| **Triple** | **Verbalization** |
| :NiceKoala rdf:type :Koala | Nice Koala is a koala. |
| :NiceKoala :hasDegree :MA | Nice Koala has degree MA. |
| :NiceKoala :hasHabitat :ThatOneVeryDryEucalyptForest | Nice Koala has habitat That One Very Dry Eucalypt Forest. |

**SmallKoala**

|  |  |  |
| --- | --- | --- |
| **Triple** | | **Verbalization** |
| :SmallKoala rdf:type :Koala | | Small Koala is a koala. |
| :SmallKoala :hasDegree :BA | | Small Koala has degree BA. |
| Select: |  |
|  | BigKoala |
|  | HugeKoala |
|  | Freddie |
|  | NiceKoala |
|  | SmallKoala |

Varianta 6.

Axiom: **Axiom: MaleStudentWith3Daughters EquivalentTo Student and (hasChildren only Female) and (hasGender value male) and (hasChildren exactly 3 Thing)**

Verbalization: Every male student with three daughters is a student that has gender male and that has exactly three children that are a female.

|  |  |
| --- | --- |
| **Triple** | **Verbalization** |
| :Carla rdf:type :Person | Carla is a person. |
| :Carla :hasGender :female | Carla has gender female. |
| :Caroline rdf:type :Person | Caroline is a person. |
| :Caroline :hasGender :female | Caroline has gender female. |
| :Freddie rdf:type :Koala | Freddie is a koala. |
| :Freddie :hasGender :male | Freddie has gender male. |
| :Marie rdf:type :Person | Marie is a person. |
| :Marie :hasGender :female | Marie has gender female. |
| :UniLeipzig rdf:type :University | Uni Leipzig is an university. |

**Lena**

|  |  |
| --- | --- |
| **Triple** | **Verbalization** |
| :Lena rdf:type :Person | Lena is a person. |
| :Lena :hasChildren :Carla | Lena has children Carla. |
| :Lena :hasChildren :Caroline | Lena has children Caroline. |
| :Lena :hasChildren :Marie | Lena has children Marie. |
| :Lena :isHardWorking true^^http://www.w3.org/2001/XMLSchema#boolean | Lena is hard working. |

**Nicole**

|  |  |
| --- | --- |
| **Triple** | **Verbalization** |
| :Nicole rdf:type :Student | Nicole is a student. |
| :Nicole :hasChildren :Carla | Nicole has children Carla. |
| :Nicole :hasChildren :Caroline | Nicole has children Caroline. |
| :Nicole :hasChildren :Marie | Nicole has children Marie. |
| :Nicole :hasGender :female | Nicole has gender female. |

**Harold**

|  |  |
| --- | --- |
| **Triple** | **Verbalization** |
| :Harold rdf:type :Student | Harold is a student. |
| :Harold :hasChildren :Carla | Harold has children Carla. |
| :Harold :hasChildren :Caroline | Harold has children Caroline. |
| :Harold :hasChildren :Marie | Harold has children Marie. |
| : Harold :hasGender :male | Harold has gender male. |

**John**

|  |  |
| --- | --- |
| **Triple** | **Verbalization** |
| :John rdf:type :Student | John is a student. |
| :John :hasChildren :Carla | John has children Carla. |
| :John :hasChildren :Caroline | John has children Caroline. |
| :John :hasChildren :Marie | John has children Marie. |

**Jack**

|  |  |  |
| --- | --- | --- |
| **Triple** | | **Verbalization** |
| :Jack rdf:type :Person | | Jack is a person. |
| :Jack :hasChildren :Carla | | Jack has children Carla. |
| :Jack :hasChildren :Caroline | | Jack has children Caroline. |
| :Jack :hasChildren :Marie | | Jack has children Marie. |
| :Jack :hasHabitat :UniLeipzig | | Jack has habitat Uni Leipzig. |
| Seelect |  |
|  | Lena |
|  | Nicole |
|  | Harold |
|  | John |
|  | Jack |

Varianta 7.

Axiom: **Axiom: Parent EquivalentTo Person and (hasChildren min 1 Thing)**

Verbalization: Every parent is a person that has at least one child.

|  |  |
| --- | --- |
| **Triple** | **Verbalization** |
| :Leipzig rdf:type :City | Leipzig is a city. |
| :ThatOneVeryDryEucalyptForest rdf:type :DryEucalyptForest | That One Very Dry Eucalypt Forest is a dry eucalypt forest. |
| :Felix rdf:type :Person | Felix is a person. |
| :Freddie rdf:type :Koala | Freddie is a koala. |
| :Freddie :hasGender :male | Freddie has gender male. |
| :NiceKoala rdf:type :Koala | Nice Koala is a koala. |

**Otto**

|  |  |
| --- | --- |
| **Triple** | **Verbalization** |
| :Otto rdf:type :Animal | Otto is an animal. |
| :Otto :hasHabitat :ThatOneVeryDryEucalyptForest | Otto has habitat That One Very Dry Eucalypt Forest. |

**James**

|  |  |
| --- | --- |
| **Triple** | **Verbalization** |
| :James rdf:type :Person | James is a person. |

**Philipp**

|  |  |
| --- | --- |
| **Triple** | **Verbalization** |
| :Philipp rdf:type :Animal | Philipp is an animal. |

**Kendrick**

|  |  |
| --- | --- |
| **Triple** | **Verbalization** |
| :Kendrick rdf:type :Animal | Kendrick is an animal. |
| :Kendrick :hasChildren :Felix | Kendrick has children Felix. |
| :Kendrick :hasChildren :NiceKoala | Kendrick has children Nice Koala. |

**Anna**

|  |  |  |
| --- | --- | --- |
| **Triple** | | **Verbalization** |
| :Anna rdf:type :Person | | Anna is a person. |
| :Anna :hasHabitat :Leipzig | | Anna has habitat Leipzig. |
| :Anna :hasChildren :Freddie | | Anna has children Freddie. | |
| :Anna :isHardWorking true^^http://www.w3.org/2001/XMLSchema#boolean | | Anna is hard working. |
| Select |  |
|  | Otto |
|  | James |
|  | Philipp |
|  | Kendrick |
|  | Anna |

Varianta 8.

Axiom: **Axiom: Student EquivalentTo Person and (hasHabitat some University) and (isHardWorking value true)**

Verbalization: Every student is a person that has as habitat an university and that is hard working.

|  |  |
| --- | --- |
| **Triple** | **Verbalization** |
| :Leipzig rdf:type :City | Leipzig is a city. |
| :UniTuebingen rdf:type :University | Uni Tuebingen is an university. |
| :UniLeipzig rdf:type :University | Uni Leipzig is an university. |

**Jenna**

|  |  |
| --- | --- |
| **Triple** | **Verbalization** |
| :Jenna rdf:type :Person | Jenna is a person. |
| :Jenna :hasHabitat :UniLeipzig | Jenna has habitat Uni Leipzig. |

**Anna**

|  |  |
| --- | --- |
| **Triple** | **Verbalization** |
| :Anna rdf:type :Person | Anna is a person. |
| :Anna :hasHabitat :UniLeipzig | Anna has habitat Uni Leipzig. |
| :Anna :isHardWorking true^^http://www.w3.org/2001/XMLSchema#boolean | Anna is hard working. |

**Marvin**

|  |  |
| --- | --- |
| **Triple** | **Verbalization** |
| :Marvin rdf:type :Animal | Marvin is an animal. |
| :Marvin :hasHabitat :UniTuebingen | Marvin has habitat Uni Tuebingen. |
| :Marvin :isHardWorking true^^http://www.w3.org/2001/XMLSchema#boolean | Marvin is hard working. |

**Kim**

|  |  |
| --- | --- |
| **Triple** | **Verbalization** |
| :Kim rdf:type :Person | Kim is a person. |
| :Kim :hasHabitat :Leipzig | Kim has habitat Leipzig. |
| :Kim :isHardWorking true^^http://www.w3.org/2001/XMLSchema#boolean | Kim is hard working. |

**Felix**

|  |  |  |
| --- | --- | --- |
| **Triple** | | **Verbalization** |
| :Felix rdf:type :Person | | Felix is a person. |
| :Felix :hasHabitat :UniLeipzig | | Felix has habitat Uni Leipzig. |
| :Felix :isHardWorking false^^http://www.w3.org/2001/XMLSchema#boolean | | Felix is not hard working. |
| Select: |  |
|  | Jenna |
|  | Anna |
|  | Marvin |
|  | Kim |
|  | Felix |

Varianta 9.

Axiom: **Axiom: KoalaWithPhD EquivalentTo Animal and (hasDegree value PhD)**

Verbalization: Every koala with PhD is an animal that has degree PhD.

|  |  |
| --- | --- |
| **Triple** | **Verbalization** |
| :BA rdf:type :Degree | BA is a degree. |
| :MA rdf:type :Degree | MA is a degree. |

**BigKoala**

|  |  |
| --- | --- |
| **Triple** | **Verbalization** |
| :BigKoala rdf:type :Animal | Big Koala is an animal. |
| :BigKoala :hasDegree :PhD | Big Koala has degree PhD. |

**HugeKoala**

|  |  |
| --- | --- |
| **Triple** | **Verbalization** |
| :HugeKoala rdf:type :Animal | Huge Koala is an animal. |
| :HugeKoala :hasDegree :MA | Huge Koala has degree MA. |
| :HugeKoala :hasHabitat :ThatOneVeryDryEucalyptForest | Huge Koala has habitat That One Very Dry Eucalypt Forest. |

**Freddie**

|  |  |
| --- | --- |
| **Triple** | **Verbalization** |
| :Freddie rdf:type :Koala | Freddie is a koala. |
| :Freddie :hasDegree :BA | Freddie has degree BA. |
| :Freddie :hasDegree :PhD | Freddie has degree PhD. |
| :Freddie :hasGender :male | Freddie has gender male. |

**NiceKoala**

|  |  |
| --- | --- |
| **Triple** | **Verbalization** |
| :NiceKoala rdf:type :Koala | Nice Koala is a koala. |
| :NiceKoala :hasDegree :MA | Nice Koala has degree MA. |
| :NiceKoala :hasHabitat :ThatOneVeryDryEucalyptForest | Nice Koala has habitat That One Very Dry Eucalypt Forest. |

**SmallKoala**

|  |  |  |
| --- | --- | --- |
| **Triple** | | **Verbalization** |
| :SmallKoala rdf:type :Koala | | Small Koala is a koala. |
| :SmallKoala :hasDegree :BA | | Small Koala has degree BA. |
| :SmallKoala :hasDegree :MA | | Small Koala has degree MA. |
| Select: |  |
|  | BigKoala |
|  | HugeKoala |
|  | Freddie |
|  | NiceKoala |
|  | SmallKoala |

Varianta 10.

Axiom: **Axiom: MaleStudentWithDaughters EquivalentTo Student and (hasChildren only Female) and (hasGender value male) and (hasChildren at least 2 Thing)**

Verbalization: Every male student with at least 2 daughters is a student that has gender male and that has at leas two children that are a female.

|  |  |
| --- | --- |
| **Triple** | **Verbalization** |
| :Carla rdf:type :Person | Carla is a person. |
| :Carla :hasGender :female | Carla has gender female. |
| :Caroline rdf:type :Person | Caroline is a person. |
| :Caroline :hasGender :female | Caroline has gender female. |
| :Freddie rdf:type :Koala | Freddie is a koala. |
| :Freddie :hasGender :male | Freddie has gender male. |
| :Marie rdf:type :Person | Marie is a person. |
| :Marie :hasGender :female | Marie has gender female. |
| :UniLeipzig rdf:type :University | Uni Leipzig is an university. |

**Lena**

|  |  |
| --- | --- |
| **Triple** | **Verbalization** |
| :Lena rdf:type :Person | Lena is a person. |
| :Lena :hasChildren :Carla | Lena has children Carla. |
| :Lena :hasChildren :Caroline | Lena has children Caroline. |
| :Lena :hasChildren :Marie | Lena has children Marie. |
| :Lena :isHardWorking true^^http://www.w3.org/2001/XMLSchema#boolean | Lena is hard working. |

**Nicole**

|  |  |
| --- | --- |
| **Triple** | **Verbalization** |
| :Nicole rdf:type :Student | Nicole is a student. |
| :Nicole :hasChildren :Carla | Nicole has children Carla. |
| :Nicole :hasChildren :Caroline | Nicole has children Caroline. |
| :Nicole :hasChildren :Marie | Nicole has children Marie. |
| :Nicole :hasGender :female | Nicole has gender female. |

**Harold**

|  |  |
| --- | --- |
| **Triple** | **Verbalization** |
| :Harold rdf:type :Student | Harold is a student. |
| :Harold :hasChildren :Carla | Harold has children Carla. |
| :Harold :hasChildren :Caroline | Harold has children Caroline. |
| : Harold :hasGender :male | Harold has gender male. |

**John**

|  |  |
| --- | --- |
| **Triple** | **Verbalization** |
| :John rdf:type :Student | John is a student. |
| :John :hasChildren :Carla | John has children Carla. |
| :John :hasChildren :Marie | John has children Marie. |

**Jack**

|  |  |  |
| --- | --- | --- |
| **Triple** | | **Verbalization** |
| :Jack rdf:type :Person | | Jack is a person. |
| :Jack :hasChildren :Carla | | Jack has children Carla. |
| :Jack :hasChildren :Caroline | | Jack has children Caroline. |
| :Jack :hasChildren :Marie | | Jack has children Marie. |
| :Jack :hasHabitat :UniLeipzig | | Jack has habitat Uni Leipzig. |
| Seelect |  |
|  | Lena |
|  | Nicole |
|  | Harold |
|  | John |
|  | Jack |

Varianta 11.

Axiom: **Axiom: Parent EquivalentTo Animal and (hasChildren min 1 Thing)**

Verbalization: Every parent is an animal that has at least one child.

|  |  |
| --- | --- |
| **Triple** | **Verbalization** |
| :Leipzig rdf:type :City | Leipzig is a city. |
| :ThatOneVeryDryEucalyptForest rdf:type :DryEucalyptForest | That One Very Dry Eucalypt Forest is a dry eucalypt forest. |
| :Felix rdf:type :Person | Felix is a person. |
| :Freddie rdf:type :Koala | Freddie is a koala. |
| :Freddie :hasGender :male | Freddie has gender male. |
| :NiceKoala rdf:type :Koala | Nice Koala is a koala. |

**Otto**

|  |  |
| --- | --- |
| **Triple** | **Verbalization** |
| :Otto rdf:type :Animal | Otto is an animal. |
| :Otto :hasHabitat :ThatOneVeryDryEucalyptForest | Otto has habitat That One Very Dry Eucalypt Forest. |

**James**

|  |  |
| --- | --- |
| **Triple** | **Verbalization** |
| :James rdf:type :Person | James is a person. |

**Philipp**

|  |  |
| --- | --- |
| **Triple** | **Verbalization** |
| :Philipp rdf:type :Animal | Philipp is an animal. |

**Kendrick**

|  |  |
| --- | --- |
| **Triple** | **Verbalization** |
| :Kendrick rdf:type :Animal | Kendrick is an animal. |
| :Kendrick :hasChildren :Felix | Kendrick has children Felix. |
| :Kendrick :hasChildren :Freddie | Kendrick has children Freddie. |
| :Kendrick :hasChildren :NiceKoala | Kendrick has children Nice Koala. |

**Anna**

|  |  |  |
| --- | --- | --- |
| **Triple** | | **Verbalization** |
| :Anna rdf:type :Person | | Anna is a person. |
| :Anna :hasHabitat :Leipzig | | Anna has habitat Leipzig. |
| :Anna :isHardWorking true^^http://www.w3.org/2001/XMLSchema#boolean | | Anna is hard working. |
| Select |  |
|  | Otto |
|  | James |
|  | Philipp |
|  | Kendrick |
|  | Anna |

Varianta 12.

Axiom: **Axiom: Student EquivalentTo Person and (hasHabitat some University) and (isHardWorking value true)**

Verbalization: Every student is a person that has as habitat an university and that is hard working.

|  |  |
| --- | --- |
| **Triple** | **Verbalization** |
| :Leipzig rdf:type :City | Leipzig is a city. |
| :UniTuebingen rdf:type :University | Uni Tuebingen is an university. |
| :UniLeipzig rdf:type :University | Uni Leipzig is an university. |

**Jenna**

|  |  |
| --- | --- |
| **Triple** | **Verbalization** |
| :Jenna rdf:type :Person | Jenna is a person. |
| :Jenna :hasHabitat :UniLeipzig | Jenna has habitat Uni Leipzig. |

**Anna**

|  |  |
| --- | --- |
| **Triple** | **Verbalization** |
| :Anna rdf:type :Person | Anna is a person. |
| :Anna :hasHabitat :Leipzig | Anna has habitat Leipzig. |
| :Anna :isHardWorking true^^http://www.w3.org/2001/XMLSchema#boolean | Anna is hard working. |

**Marvin**

|  |  |
| --- | --- |
| **Triple** | **Verbalization** |
| :Marvin rdf:type :Animal | Marvin is an animal. |
| :Marvin :hasHabitat :UniTuebingen | Marvin has habitat Uni Tuebingen. |
| :Marvin :isHardWorking true^^http://www.w3.org/2001/XMLSchema#boolean | Marvin is hard working. |

**Kim**

|  |  |
| --- | --- |
| **Triple** | **Verbalization** |
| :Kim rdf:type :Person | Kim is a person. |
| :Kim :hasHabitat :UniLeipzig | Kim has habitat Uni Leipzig. |
| :Kim :isHardWorking false^^http://www.w3.org/2001/XMLSchema#boolean | Kim is not hard working. |

**Felix**

|  |  |  |
| --- | --- | --- |
| **Triple** | | **Verbalization** |
| :Felix rdf:type :Person | | Felix is a person. |
| :Felix :hasHabitat :UniLeipzig | | Felix has habitat Uni Leipzig. |
| :Felix :isHardWorking true^^http://www.w3.org/2001/XMLSchema#boolean | | Felix is hard working. |
| Select: |  |
|  | Jenna |
|  | Anna |
|  | Marvin |
|  | Kim |
|  | Felix |

Varianta 13.

Axiom: **Axiom: KoalaWithBA EquivalentTo Koala and (hasDegree value BA)**

Verbalization: Every koala with BA is a koala that has degree BA.

|  |  |
| --- | --- |
| **Triple** | **Verbalization** |
| :BA rdf:type :Degree | BA is a degree. |
| :MA rdf:type :Degree | MA is a degree. |

**BigKoala**

|  |  |
| --- | --- |
| **Triple** | **Verbalization** |
| :BigKoala rdf:type :Animal | Big Koala is an animal. |
| :BigKoala :hasDegree :PhD | Big Koala has degree PhD. |

**HugeKoala**

|  |  |
| --- | --- |
| **Triple** | **Verbalization** |
| :HugeKoala rdf:type :Animal | Huge Koala is an animal. |
| :HugeKoala :hasDegree :PhD | Huge Koala has degree PhD. |
| :HugeKoala :hasHabitat :ThatOneVeryDryEucalyptForest | Huge Koala has habitat That One Very Dry Eucalypt Forest. |

**Freddie**

|  |  |
| --- | --- |
| **Triple** | **Verbalization** |
| :Freddie rdf:type :Koala | Freddie is a koala. |
| :Freddie :hasDegree :BA | Freddie has degree BA. |
| :Freddie :hasDegree :PhD | Freddie has degree PhD. |
| :Freddie :hasGender :male | Freddie has gender male. |

**NiceKoala**

|  |  |
| --- | --- |
| **Triple** | **Verbalization** |
| :NiceKoala rdf:type :Koala | Nice Koala is a koala. |
| :NiceKoala :hasDegree :MA | Nice Koala has degree MA. |
| :NiceKoala :hasHabitat :ThatOneVeryDryEucalyptForest | Nice Koala has habitat That One Very Dry Eucalypt Forest. |

**SmallKoala**

|  |  |  |
| --- | --- | --- |
| **Triple** | | **Verbalization** |
| :SmallKoala rdf:type :Koala | | Small Koala is a koala. |
| :SmallKoala :hasDegree :MA | | Small Koala has degree MA. |
| Select: |  |
|  | BigKoala |
|  | HugeKoala |
|  | Freddie |
|  | NiceKoala |
|  | SmallKoala |

Varianta 14.

Axiom: **Axiom: MaleStudentWith1Daughter EquivalentTo Student and (hasChildren only Female) and (hasGender value male) and (hasChildren exactly 1 Thing)**

Verbalization: Every male student with one daughter is a student that has gender male and that has exactly one children that are a female.

|  |  |
| --- | --- |
| **Triple** | **Verbalization** |
| :Carla rdf:type :Person | Carla is a person. |
| :Carla :hasGender :female | Carla has gender female. |
| :Caroline rdf:type :Person | Caroline is a person. |
| :Caroline :hasGender :female | Caroline has gender female. |
| :Freddie rdf:type :Koala | Freddie is a koala. |
| :Freddie :hasGender :male | Freddie has gender male. |
| :Marie rdf:type :Person | Marie is a person. |
| :Marie :hasGender :female | Marie has gender female. |
| :UniLeipzig rdf:type :University | Uni Leipzig is an university. |

**Lena**

|  |  |
| --- | --- |
| **Triple** | **Verbalization** |
| :Lena rdf:type :Person | Lena is a person. |
| :Lena :hasChildren :Carla | Lena has children Carla. |
| :Lena :hasChildren :Caroline | Lena has children Caroline. |
| :Lena :hasChildren :Marie | Lena has children Marie. |
| :Lena :isHardWorking true^^http://www.w3.org/2001/XMLSchema#boolean | Lena is hard working. |

**Nicole**

|  |  |
| --- | --- |
| **Triple** | **Verbalization** |
| :Nicole rdf:type :Student | Nicole is a student. |
| :Nicole :hasChildren :Carla | Nicole has children Carla. |
| :Nicole :hasChildren :Caroline | Nicole has children Caroline. |
| :Nicole :hasChildren :Marie | Nicole has children Marie. |
| :Nicole :hasGender :female | Nicole has gender female. |

**Harold**

|  |  |
| --- | --- |
| **Triple** | **Verbalization** |
| :Harold rdf:type :Student | Harold is a student. |
| :Harold :hasChildren :Carla | Harold has children Carla. |
| :Harold :hasGender :male | Harold has gender male. |

**John**

|  |  |
| --- | --- |
| **Triple** | **Verbalization** |
| :John rdf:type :Student | John is a student. |
| :John :hasChildren :Carla | John has children Carla. |
| :John :hasChildren :Caroline | John has children Caroline. |
| :John :hasChildren :Marie | John has children Marie. |
| :John :hasGender :male | John has gender male. |

**Jack**

|  |  |  |
| --- | --- | --- |
| **Triple** | | **Verbalization** |
| :Jack rdf:type :Person | | Jack is a person. |
| :Jack :hasChildren :Carla | | Jack has children Carla. |
| :Jack :hasChildren :Caroline | | Jack has children Caroline. |
| :Jack :hasChildren :Marie | | Jack has children Marie. |
| :Jack :hasHabitat :UniLeipzig | | Jack has habitat Uni Leipzig. |
| Seelect |  |
|  | Lena |
|  | Nicole |
|  | Harold |
|  | John |
|  | Jack |

Varianta 15.

Axiom: **Axiom: Parent EquivalentTo Animal and (hasChildren exactly 2 Things)**

Verbalization: Every parent is an animal that has exactly 2 children.

|  |  |
| --- | --- |
| **Triple** | **Verbalization** |
| :Leipzig rdf:type :City | Leipzig is a city. |
| :ThatOneVeryDryEucalyptForest rdf:type :DryEucalyptForest | That One Very Dry Eucalypt Forest is a dry eucalypt forest. |
| :Felix rdf:type :Person | Felix is a person. |
| :Freddie rdf:type :Koala | Freddie is a koala. |
| :Freddie :hasGender :male | Freddie has gender male. |
| :NiceKoala rdf:type :Koala | Nice Koala is a koala. |

**Otto**

|  |  |
| --- | --- |
| **Triple** | **Verbalization** |
| :Otto rdf:type :Animal | Otto is an animal. |
| :Otto :hasHabitat :ThatOneVeryDryEucalyptForest | Otto has habitat That One Very Dry Eucalypt Forest. |

**James**

|  |  |
| --- | --- |
| **Triple** | **Verbalization** |
| :James rdf:type :Person | James is a person. |

**Philipp**

|  |  |
| --- | --- |
| **Triple** | **Verbalization** |
| :Philipp rdf:type :Animal | Philipp is an animal. |
| : Philipp :hasChildren :Felix | Philipp has children Felix. |
| : Philipp :hasChildren :Freddie | Philipp has children Freddie. |

**Kendrick**

|  |  |
| --- | --- |
| **Triple** | **Verbalization** |
| :Kendrick rdf:type :Animal | Kendrick is an animal. |
| :Kendrick :hasChildren :Felix | Kendrick has children Felix. |
| :Kendrick :hasChildren :Freddie | Kendrick has children Freddie. |
| :Kendrick :hasChildren :NiceKoala | Kendrick has children Nice Koala. |

**Anna**

|  |  |  |
| --- | --- | --- |
| **Triple** | | **Verbalization** |
| :Anna rdf:type :Person | | Anna is a person. |
| :Anna :hasHabitat :Leipzig | | Anna has habitat Leipzig. |
| :Anna :isHardWorking true^^http://www.w3.org/2001/XMLSchema#boolean | | Anna is hard working. |
| Select |  |
|  | Otto |
|  | James |
|  | Philipp |
|  | Kendrick |
|  | Anna |

Varianta 16.

Axiom: **Axiom: Student EquivalentTo Person and (hasHabitat some City) and (isHardWorking value true)**

Verbalization: Every student is a person that has as habitat a city and that is hard working.

|  |  |
| --- | --- |
| **Triple** | **Verbalization** |
| :Leipzig rdf:type :City | Leipzig is a city. |
| :UniTuebingen rdf:type :University | Uni Tuebingen is an university. |
| :UniLeipzig rdf:type :University | Uni Leipzig is an university. |

**Jenna**

|  |  |
| --- | --- |
| **Triple** | **Verbalization** |
| :Jenna rdf:type :Person | Jenna is a person. |
| :Jenna :hasHabitat :UniLeipzig | Jenna has habitat Uni Leipzig. |

**Anna**

|  |  |
| --- | --- |
| **Triple** | **Verbalization** |
| :Anna rdf:type :Person | Anna is a person. |
| :Anna :hasHabitat :Leipzig | Anna has habitat Leipzig. |
| :Anna :isHardWorking true^^http://www.w3.org/2001/XMLSchema#boolean | Anna is hard working. |

**Marvin**

|  |  |
| --- | --- |
| **Triple** | **Verbalization** |
| :Marvin rdf:type :Animal | Marvin is an animal. |
| :Marvin :hasHabitat :UniTuebingen | Marvin has habitat Uni Tuebingen. |
| :Marvin :isHardWorking true^^http://www.w3.org/2001/XMLSchema#boolean | Marvin is hard working. |

**Kim**

|  |  |
| --- | --- |
| **Triple** | **Verbalization** |
| :Kim rdf:type :Person | Kim is a person. |
| :Kim :hasHabitat :UniLeipzig | Kim has habitat Uni Leipzig. |
| :Kim :isHardWorking true^^http://www.w3.org/2001/XMLSchema#boolean | Kim is hard working. |

**Felix**

|  |  |  |
| --- | --- | --- |
| **Triple** | | **Verbalization** |
| :Felix rdf:type :Person | | Felix is a person. |
| :Felix :hasHabitat :UniLeipzig | | Felix has habitat Uni Leipzig. |
| :Felix :isHardWorking false^^http://www.w3.org/2001/XMLSchema#boolean | | Felix is not hard working. |
| Select: |  |
|  | Jenna |
|  | Anna |
|  | Marvin |
|  | Kim |
|  | Felix |

Varianta 17.

Axiom: **Axiom: KoalaWithPhD EquivalentTo Koala and (hasDegree value PhD)**

Verbalization: Every koala with phd is a koala that has degree PhD.

|  |  |
| --- | --- |
| **Triple** | **Verbalization** |
| :BA rdf:type :Degree | BA is a degree. |
| :MA rdf:type :Degree | MA is a degree. |

**BigKoala**

|  |  |
| --- | --- |
| **Triple** | **Verbalization** |
| :BigKoala rdf:type :Animal | Big Koala is an animal. |
| :BigKoala :hasDegree :PhD | Big Koala has degree PhD. |

**HugeKoala**

|  |  |
| --- | --- |
| **Triple** | **Verbalization** |
| :HugeKoala rdf:type :Animal | Huge Koala is an animal. |
| :HugeKoala :hasDegree :PhD | Huge Koala has degree PhD. |
| :HugeKoala :hasHabitat :ThatOneVeryDryEucalyptForest | Huge Koala has habitat That One Very Dry Eucalypt Forest. |

**Tom**

|  |  |
| --- | --- |
| **Triple** | **Verbalization** |
| :Tom rdf:type :Koala | Tom is a koala. |
| :Tom :hasDegree :BA | Tom has degree BA. |
| :Tom :hasDegree :PhD | Tom has degree PhD. |
| :Tom :hasGender :male | Tom has gender male. |

**NiceKoala**

|  |  |
| --- | --- |
| **Triple** | **Verbalization** |
| :NiceKoala rdf:type :Koala | Nice Koala is a koala. |
| :NiceKoala :hasDegree :MA | Nice Koala has degree MA. |
| :NiceKoala :hasHabitat :ThatOneVeryDryEucalyptForest | Nice Koala has habitat That One Very Dry Eucalypt Forest. |

**SmallKoala**

|  |  |  |
| --- | --- | --- |
| **Triple** | | **Verbalization** |
| :SmallKoala rdf:type :Koala | | Small Koala is a koala. |
| :SmallKoala :hasDegree :BA | | Small Koala has degree BA. |
| :SmallKoala :hasDegree :MA | | Small Koala has degree MA. |
| Select: |  |
|  | BigKoala |
|  | HugeKoala |
|  | Tom |
|  | NiceKoala |
|  | SmallKoala |

Varianta 18.

Axiom: **Axiom: MaleStudentWith3Daughters EquivalentTo Student and (hasChildren only Female) and (hasGender value male) and (hasChildren exactly 3 Thing)**

Verbalization: Every male student with three daughters is a student that has gender male and that has exactly three children that are a female.

|  |  |
| --- | --- |
| **Triple** | **Verbalization** |
| :Carla rdf:type :Person | Carla is a person. |
| :Carla :hasGender :female | Carla has gender female. |
| :Caroline rdf:type :Person | Caroline is a person. |
| :Caroline :hasGender :female | Caroline has gender female. |
| :Freddie rdf:type :Koala | Freddie is a koala. |
| :Freddie :hasGender :male | Freddie has gender male. |
| :Marie rdf:type :Person | Marie is a person. |
| :Marie :hasGender :female | Marie has gender female. |
| :UniLeipzig rdf:type :University | Uni Leipzig is an university. |

**Lena**

|  |  |
| --- | --- |
| **Triple** | **Verbalization** |
| :Lena rdf:type :Person | Lena is a person. |
| :Lena :hasChildren :Carla | Lena has children Carla. |
| :Lena :hasChildren :Caroline | Lena has children Caroline. |
| :Lena :hasChildren :Marie | Lena has children Marie. |
| :Lena :isHardWorking true^^http://www.w3.org/2001/XMLSchema#boolean | Lena is hard working. |

**Nicole**

|  |  |
| --- | --- |
| **Triple** | **Verbalization** |
| :Nicole rdf:type :Student | Nicole is a student. |
| :Nicole :hasChildren :Carla | Nicole has children Carla. |
| :Nicole :hasChildren :Caroline | Nicole has children Caroline. |
| :Nicole :hasChildren :Marie | Nicole has children Marie. |
| :Nicole :hasGender :female | Nicole has gender female. |

**Harold**

|  |  |
| --- | --- |
| **Triple** | **Verbalization** |
| :Harold rdf:type :Student | Harold is a student. |
| :Harold :hasChildren :Carla | Harold has children Carla. |
| :Harold :hasChildren :Caroline | Harold has children Caroline. |
| :Harold :hasChildren :Marie | Harold has children Marie. |

**John**

|  |  |
| --- | --- |
| **Triple** | **Verbalization** |
| :John rdf:type :Student | John is a student. |
| :John :hasChildren :Carla | John has children Carla. |
| :John :hasChildren :Caroline | John has children Caroline. |
| :John :hasChildren :Marie | John has children Marie. |
| :John :hasHabitat :UniLeipzig | John has habitat Uni Leipzig. |

**Jack**

|  |  |  |
| --- | --- | --- |
| **Triple** | | **Verbalization** |
| :Jack rdf:type :Person | | Jack is a person. |
| :Jack :hasChildren :Carla | | Jack has children Carla. |
| :Jack :hasChildren :Caroline | | Jack has children Caroline. |
| :Jack :hasChildren :Marie | | Jack has children Marie. |
| :Jack :hasGender :male | | Jack has gender male. |
| Seelect |  |
|  | Lena |
|  | Nicole |
|  | Harold |
|  | John |
|  | Jack |

Varianta 19.

Axiom: **Axiom: Parent EquivalentTo Animal and (hasChildren min 1 Thing)**

Verbalization: Every parent is an animal that has at least one child.

|  |  |
| --- | --- |
| **Triple** | **Verbalization** |
| :Leipzig rdf:type :City | Leipzig is a city. |
| :ThatOneVeryDryEucalyptForest rdf:type :DryEucalyptForest | That One Very Dry Eucalypt Forest is a dry eucalypt forest. |
| :Felix rdf:type :Person | Felix is a person. |
| :Freddie rdf:type :Koala | Freddie is a koala. |
| :Freddie :hasGender :male | Freddie has gender male. |
| :NiceKoala rdf:type :Koala | Nice Koala is a koala. |

**Otto**

|  |  |
| --- | --- |
| **Triple** | **Verbalization** |
| :Otto rdf:type :Animal | Otto is an animal. |
| :Otto :hasHabitat :ThatOneVeryDryEucalyptForest | Otto has habitat That One Very Dry Eucalypt Forest. |

**James**

|  |  |
| --- | --- |
| **Triple** | **Verbalization** |
| :James rdf:type :Person | James is a person. |

**Philipp**

|  |  |
| --- | --- |
| **Triple** | **Verbalization** |
| :Philipp rdf:type :Animal | Philipp is an animal. |

**Kendrick**

|  |  |
| --- | --- |
| **Triple** | **Verbalization** |
| :Kendrick rdf:type :Animal | Kendrick is an animal. |
| :Kendrick :hasChildren :Felix | Kendrick has children Felix. |
| :Kendrick :hasChildren :Freddie | Kendrick has children Freddie. |
| :Kendrick :hasChildren :NiceKoala | Kendrick has children Nice Koala. |

**Anna**

|  |  |  |
| --- | --- | --- |
| **Triple** | | **Verbalization** |
| :Anna rdf:type :Person | | Anna is a person. |
| :Anna :hasHabitat :Leipzig | | Anna has habitat Leipzig. |
| :Anna :isHardWorking true^^http://www.w3.org/2001/XMLSchema#boolean | | Anna is hard working. |
| Select |  |
|  | Otto |
|  | James |
|  | Philipp |
|  | Kendrick |
|  | Anna |

Varianta 20.

Axiom: **Axiom: Student EquivalentTo Person and (hasHabitat some University) and (isHardWorking value true)**

Verbalization: Every student is a person that has as habitat an university and that is hard working.

|  |  |
| --- | --- |
| **Triple** | **Verbalization** |
| :Leipzig rdf:type :City | Leipzig is a city. |
| :UniTuebingen rdf:type :University | Uni Tuebingen is an university. |
| :UniLeipzig rdf:type :University | Uni Leipzig is an university. |

**Jenna**

|  |  |
| --- | --- |
| **Triple** | **Verbalization** |
| :Jenna rdf:type :Person | Jenna is a person. |
| :Jenna :hasHabitat :UniLeipzig | Jenna has habitat Uni Leipzig. |

**Anna**

|  |  |
| --- | --- |
| **Triple** | **Verbalization** |
| :Anna rdf:type :Person | Anna is a person. |
| :Anna :hasHabitat :Leipzig | Anna has habitat Leipzig. |
| :Anna :isHardWorking true^^http://www.w3.org/2001/XMLSchema#boolean | Anna is hard working. |

**Marvin**

|  |  |
| --- | --- |
| **Triple** | **Verbalization** |
| :Marvin rdf:type :Animal | Marvin is an animal. |
| :Marvin :hasHabitat :UniTuebingen | Marvin has habitat Uni Tuebingen. |
| :Marvin :isHardWorking true^^http://www.w3.org/2001/XMLSchema#boolean | Marvin is hard working. |

**Kim**

|  |  |
| --- | --- |
| **Triple** | **Verbalization** |
| :Kim rdf:type :Person | Kim is a person. |
| :Kim :hasHabitat :UniLeipzig | Kim has habitat Uni Leipzig. |
| :Kim :isHardWorking true^^http://www.w3.org/2001/XMLSchema#boolean | Kim is hard working. |

**Felix**

|  |  |  |
| --- | --- | --- |
| **Triple** | | **Verbalization** |
| :Felix rdf:type :Person | | Felix is a person. |
| :Felix :hasHabitat :UniLeipzig | | Felix has habitat Uni Leipzig. |
| :Felix :isHardWorking false^^http://www.w3.org/2001/XMLSchema#boolean | | Felix is not hard working. |
| Select: |  |
|  | Jenna |
|  | Anna |
|  | Marvin |
|  | Kim |
|  | Felix |