

IN3060 - Oblig 6

Markus Sverdvik Heiervang - markuhei

1.1 DL Axioms

3. $\text{Horse} \sqsubseteq \text{Animal}$
4. $\text{Animal} \sqsubseteq \text{Male} \sqcup \text{Female}$
5. $\text{Male} \sqcap \text{Female} \sqsubseteq \perp$
6. $\text{MonteHorse} \sqsubseteq \text{RaceHorse} \sqcup \text{hasCompeted some HorseRace}$
7. $\text{SuperHorse} \sqsubseteq \text{RaceHorse} \sqcup \text{hasWon min 101 HorseRace}$
8. $\text{hasWon} \sqsubseteq \text{hasCompeted}$
9. $\text{RaceHorse} \sqsubseteq \text{hasTrainer some Person}$
10. $\langle h, t \rangle \in \text{hasTrainer} \rightarrow \langle h, t \rangle \in \text{trains}$

1.2 Questions

1. Unknown. RexRodney is not a member of any class which is a subclass of Male
2. Yes. Kjell Håkonsen trains Rex Rodney and Rex Rodney won Elitloppet 1986. It is entailed by the rule we made in the first exercise, quoting: "Every trainer had interest in a race if a horse he/she trains competed in this race"
3. Unknown. Whether the horse is coldblooded or warmblooded is not asserted, and the only way we could know without these assertions would require us to know the age of the horse, which we don't
4. Unknown. Same reason as above
5. Unknown. Same reason as above
6. No. ReadySteadyGo is a MonteHorse which means she has only competed in monteraces. Elitloppet is not a MonteRace.

2 Connecting to dbpedia

I had to download the racehorse file to get it to work, so i added it in the delivery as an appendix

Decisions and interpretation

As dbpedia:Stallion is a dbp:sex, it is clear that dbpedia:Stallion and the class Stallion are two different things. I interpreted dbpedia:Stallion as the value of the property dbp:sex for any male horse

2.1 Questions

Individuals with sex: stallion

DL query:

Query (class expression)

dbp:sex **value** dbpedia:Stallion

Execute Add to ontology

Query results

Instances (4 of 4)

◆ DocRodney	?
◆ dbpedia:In_the_Wings_%28horse%29	?
◆ dbpedia:Northern_Dancer	?
◆ dbpedia:Sadler%27s_Wells_%28horse%29	?

Individuals of class: stallion

DL query:

Query (class expression)

Stallion

Execute Add to ontology

Query results

Instances (0 of 0)

Query for

- ☐ Direct superclasses
- ☐ Superclasses
- ☐ Equivalent classes
- ☐ Direct subclasses
- ☐ Subclasses
- ☒ Instances

DL query:

Query (class expression)

Horse **and** Male

Execute Add to ontology

Query results

Instances (4 of 4)

◆ DocRodney	?
◆ dbpedia:In_the_Wings_%28horse%29	?
◆ dbpedia:Northern_Dancer	?
◆ dbpedia:Sadler%27s_Wells_%28horse%29	?

In the wings' grandfather is a blank node with the name "Northern Dancer" and there is no way to know for sure that there are no other horses with the same name.