Test Cases
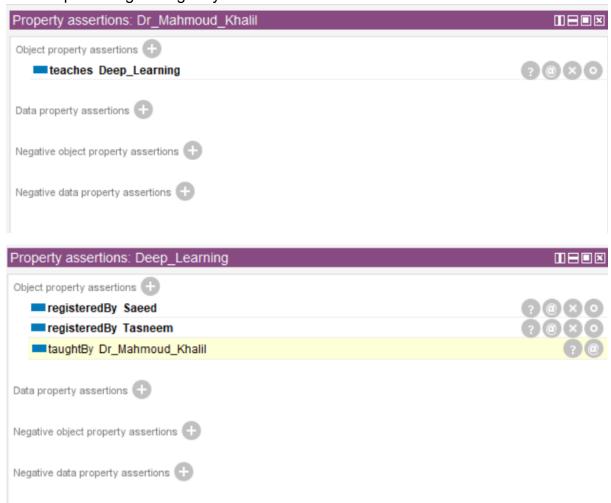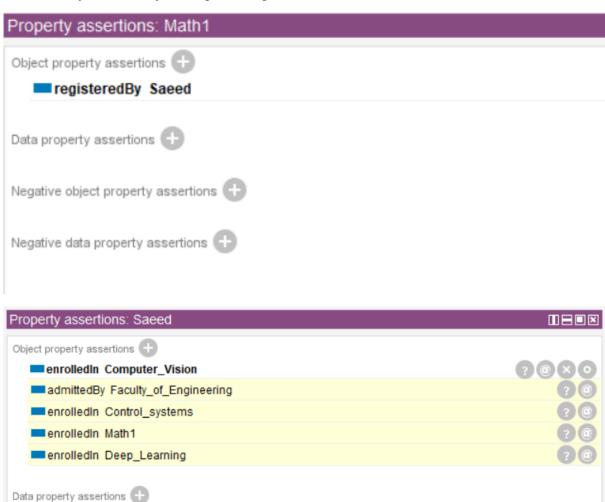
When we define that Dr. Mahmoud Khalil teaches deep learning, we expect it to infer that deep learning is taught by Dr. Mahmoud.

Property assertions: Dr_Mahmoud_Khalil

Object property assertions
- teaches Deep_Learning

Data property assertions

Negative object property assertions

Negative data property assertions

Property assertions: Deep_Learning

Object property assertions
- registeredBy Saeed
- registeredBy Tasneem
- taughtBy Dr_Mahmoud_Khalil

Data property assertions

Negative object property assertions

Negative data property assertions

When we define that math1 is registered by Saeed, we expect it to infer that Saeed is enrolled in the course, and the same applies for the rest. It also infers that he is admitted by the faculty of engineering.

Property assertions: Math1

Object property assertions ⊕
- registeredBy Saeed

Data property assertions ⊕

Negative object property assertions ⊕

Negative data property assertions ⊕

Property assertions: Saeed

Object property assertions ⊕
- enrolledIn Computer_Vision
- admittedBy Faculty_of_Engineering
- enrolledIn Control_systems
- enrolledIn Math1
- enrolledIn Deep_Learning

Data property assertions ⊕
- hasName "Saeed"
- hasAge "22"^^xsd:nonNegativeInteger
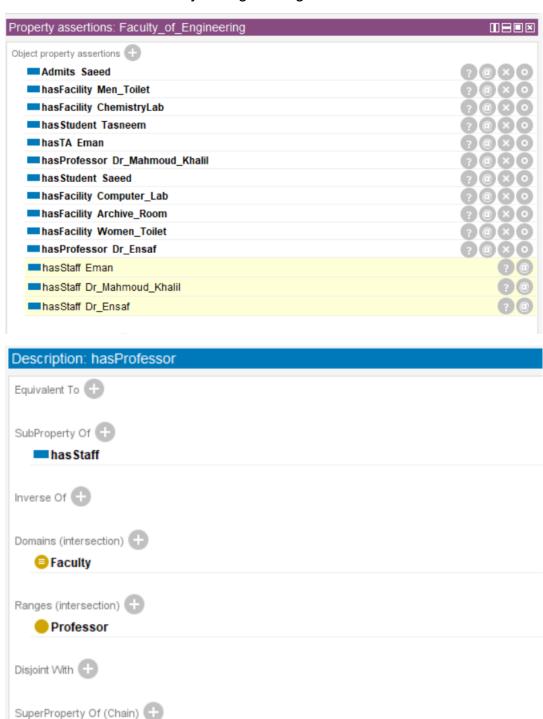- hasLabel "Saeed"

Negative object property assertions ⊕

Negative data property assertions ⊕

When the faculty of engineering has a professor or a TA, we expect it to infer that there are staff at the faculty of engineering.

Property assertions: Faculty_of_Engineering

Object property assertions

- Admits Saeed
- hasFacility Men_Toilet
- hasFacility ChemistryLab
- hasStudent Tasneem
- hasTA Eman
- hasProfessor Dr_Mahmoud_Khalil
- hasStudent Saeed
- hasFacility Computer_Lab
- hasFacility Archive_Room
- hasFacility Women_Toilet
- hasProfessor Dr_Ensaf
- hasStaff Eman
- hasStaff Dr_Mahmoud_Khalil
- hasStaff Dr_Ensaf

Description: hasProfessor

Equivalent To

SubProperty Of
- hasStaff

Inverse Of

Domains (intersection)
- Faculty

Ranges (intersection)
- Professor

Disjoint With

SuperProperty Of (Chain)

When we input that SFS individual is taught by Dr Islam, the reasoner infers that SFS is a course

Description: SFS		Property assertions: SFS	
Types ⊕		Object property assertions ⊕	
		▬ taughtBy Dr_Islam	? @ ✕ ○
Same Individual As ⊕		Data property assertions ⊕	
Different Individuals ⊕		Negative object property assertions ⊕	
		Negative data property assertions ⊕	

Types ⊕		Object property assertions ⊕	
● Course	? @	▬ taughtBy Dr_Islam	? @ ✕ ○
Same Individual As ⊕		Data property assertions ⊕	
Different Individuals ⊕		Negative object property assertions ⊕	
		Negative data property assertions ⊕	

Description: SFS		Property assertions: SFS	
Types ⊕		Object property assertions ⊕	
		▬ taughtBy Dr_Islam	

In continuation to inference of SFS is a course, Additional inference is made that Dr Islam is from the Teaching staff, and that he teaches the SFS course

Description: Dr_Islam	? ❘❘ ⊟ ▣ ⊠	Property assertions: Dr_Islam	❘❘ ⊟ ▣ ⊠

Types ⊕
● Person   ? @ ✕ ○

Same Individual As ⊕

Different Individuals ⊕

Object property assertions ⊕

Data property assertions ⊕

Negative object property assertions ⊕

Negative data property assertions ⊕

Description: Dr_Islam	? ❘❘ ⊟ ▣ ⊠	Property assertions: Dr_Islam	❘❘ ⊟ ▣ ⊠

Types ⊕
● Person   ? @ ✕ ○
● Teaching   ? @

Same Individual As ⊕

Different Individuals ⊕

Object property assertions ⊕
▬ teaches SFS   ? @

Data property assertions ⊕

Negative object property assertions ⊕

Negative data property assertions ⊕