COMP_SCI 371

HW 2

Due 1/30/2019 1:59 p.m.

In this assignment, you are going to represent concepts using CycL. You will begin by defining a set of entities, collections, and predicates. You will later reference these definitions in order to express more complex concepts.

The representations will be of the new CS space on Mudd's 3rd floor.

For each prompt, define the given concept in CycL predicate calculus. Remember that, by convention, all predicates should start with a lowercase letter and all collections should start with an uppercase letter. Entities should start with a lowercase letter unless they represent a proper noun (e.g. president44 vs. BarackObama). Everything should be camel case (no spaces, underscores, etc.).

You will submit your assignment via Canvas. The submitted document must be a PDF. You can work in whatever environment you want (MS Word, Google Docs, Latex, etc.). All of these environments support generating PDFs.

0. Getting Set Up

Access the knowledge base:

- Companions should already be installed on your machine. If not, follow the instructions on Canvas.
- Start up a Companion. Click "Start Session" and select "Interaction-Manager". Once agents are up, right click on "interaction-manager" and selection "Browse KB".

1. Concept Definitions

Using CycL notation, ontologize the following concepts. At a minimum:

- each *entity* should have **one** `isa` statement and **one** `comment`
- each *collection* should have **one** `isa` statement, **one** `genls` statement and **one** `comment`
- each *predicate* should have **one** `isa` statement, **one** `genlpreds` statement, **one** `arity` statement, **any** necessary `argIsas` and **one** `comment`

Be as specific as possible. You may use any concepts already in the knowledge base and any concepts you have defined as a part of this assignment. Do not define any additional concepts.

Concepts:

1. Danilo Ribeiro
2. Irina Rabkina
3. Faculty office
4. Room 3106
5. Irina's office
6. AI Collaboration Room
7. Women's restroom
8. Men's restroom
9. Welcome desk
10. Companions Kiosk
11. Northwest conference room
12. Open workspace
13. Around the corner
14. Across the hall
15. Next door

2. Sentences

Using predicate calculus and the concepts you have defined above, represent the following sentences. You may use additional concepts from the knowledge base. If needed, create entities using an `isa` statement, but do not create any additional collections or predicates.

1. Danilo Ribeiro works in Room 3106.
2. The Companions Kiosk is around the corner from Irina's office.
3. An open workspace is across the hall from the welcome desk.
4. The AI Collaboration room is next door to the office that's next door to Irina's office and around the corner from Room 3106.