

INFS3101/7100 Ontology and the Semantic Web

Week 6 Tutorial Subclasses and Subproperties

Semester 1, 2006

Key Terms

- Common to represent things as objects in classes.
- Objects have properties.
- Superclass subsumes subclass.
- Superproperty subsumes subproperty.
- Properties have metaproperties rigid, essential, identity, unity which govern subsumption.
- Subclasses can be defined or declared.

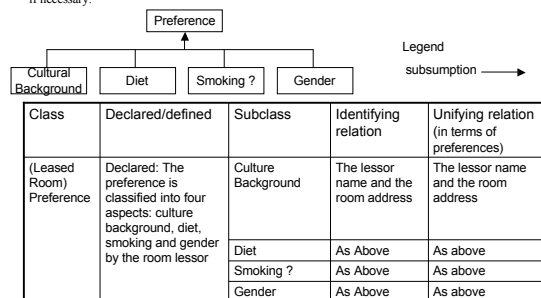
Question 1a

Describe the classes in the ontology. Give their rigid properties, indicating whether the rigid properties are lexical and logical, and their essential properties.

Class	Rigid Property	Lexical/Logical	Essential Property
Building	Building	Lexical	Locations, suburbs, amenities, owners and addresses
House	House	Lexical	House types with the Building essential properties
Unit	Unit	Lexical	Unit types, warden attendance (Boolean) with the Building essential properties
Luxury Property	Luxury Property	Logical – rents above AU\$1000 per week	Owner, lease, estate agents who manage the property
Major Property Portfolio	Major Property Portfolio	Logical – the property portfolio has at least 10 properties	Portfolio type – commercial, residential or hybrid.

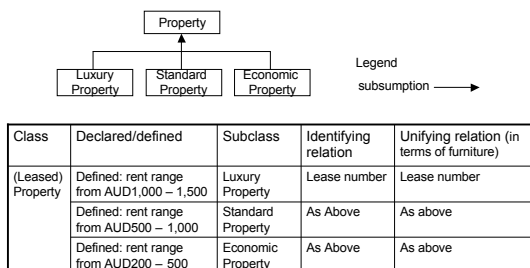
Q1a continues

Show a system of subclasses for each class, inventing a plausible system if necessary. Each subclass is either defined or declared. If it is defined give the defining predicates. If it is declared, tell how objects are classified into the subclass and by which role. Show that the identifying and unifying relations are preserved in the subclass structure. Make plausible additions to the system if necessary.



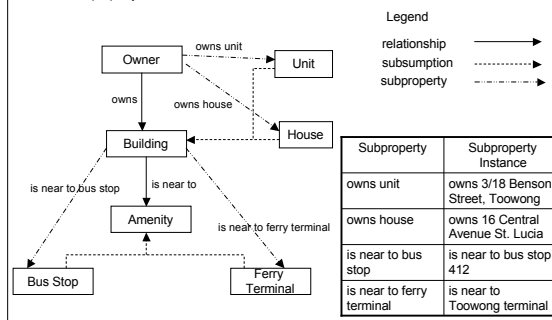
Q1a continues

Show a system of subclasses for each class, inventing a plausible system if necessary. Each subclass is either defined or declared. If it is defined give the defining predicates. If it is declared, tell how objects are classified into the subclass and by which role. Show that the identifying and unifying relations are preserved in the subclass structure. Make plausible additions to the system if necessary.



Question 1b

Describe a property (relationship, association) involving at least one of the classes from Q1a. This property should have a subproperty structure. Invent a plausible structure if necessary. Show a population of property instances, including at least one instance of each subproperty



Consultation Session

- Today 2-3pm at 78-631