

2. Entailment

2.1.1

Yes, and this is the derivation:

1. `sim:Marge fam:hasSpouse sim:Homer` – P
2. `fam:hasSpouse rdfs:domain foaf:Person` – P
3. `sim:Marge rdf:type foaf:Person` – rdfsX, 1, 2

2.1.2

Yes, and this is the derivation:

1. `fam:hasSister rdfs:subPropertyOf fam:hasSibling` – P
2. `fam:hasSibling rdfs:subPropertyOf fam:isRelativeOf` – P
3. `fam:hasSister rdfs:subPropertyOf fam:isRelativeOf` – rdfsX, 1, 2

2.1.3

No.

2.1.4

No.

2.1.6

No.

2.1.7

Yes, and this is the derivation:

1. `sim:Lisa fam:hasParent []` .
2. `[] a foaf:Person` .
3. `[] fam:hasSister sim:Patty` .
4. `sim:Patty rdf:type foaf:Person` . – rdfsX, 1, 2, 3