

1. sim:Marge rdf:type foaf:Person

sim:Marge fam:hasSpouse sim:Homer — P

fam:hasSpouse rdfs:domain foaf:Person — P

sim:Marge rdf:type foaf:Person — rdfs2, 1, 2

2. fam:hasSister rdfs:subPropertyOf fam:isRelativeOf

fam:hasSister rdfs:subPropertyOf fam:hasSibling — P

fam:hasSibling rdfs:subPropertyOf fam:isRelativeOf — P

fam:hasSister rdfs:subPropertyOf fam:isRelativeOf — rdfs5, 1, 2

3. sim:Marge rdf:type fam:Woman

This statement does not follow from the RDFS statements from the previous exercise because we know Marge is a Person but not necessarily a woman.

4. sim:Herb rdf:type fam:Man

fam:hasBrother sim:Herb — P

fam:hasBrother rdfs:range fam:Man — P

sim:Herb rdf:type fam:Man — rdfs3, 1, 2

5. sim:Lisa fam:isRelativeOf sim:Homer

sim:Lisa fam:hasFather sim:Homer — P

fam:hasFather rdfs:subPropertyOf fam:hasParent — P

fam:hasParent rdfs:subPropertyOf fam:isRelativeOf — P

fam:hasFather rdfs:subPropertyOf fam:isRelativeOf — rdfs5, 2, 3

sim:Lisa fam:isRelativeOf sim:Homer — rdfs7, 1, 4

6. sim:Lisa fam:hasMother sim:Marge

This statement does not follow from the RDFS statements from the previous exercise because we cannot verify that Lisa's parent is Marge.

7. sim:Patty rdf:type foaf:Person

fam:hasSister sim:Patty — P

fam:hasSister rdfs:subPropertyOf fam:hasSibling — P

fam:hasSibling rdfs:subPropertyOf fam:isRelativeOf — P

fam:hasSister rdfs:subPropertyOf fam:isRelativeOf — rdfs5, 2, 3

fam:isRelativeOf sim:Patty — rdfs7, 1, 4

fam:isRelativeOf rdfs:range foaf:Person — P

sim:Patty rdf:type foaf:Person — rdfs3, 5, 6