$first(l)$ (returns the first element),

$rest(l)$ (returns the rest of the list),

and predicate symbols

$item(x, l)$ (true iff an element occurs in the list),

$list(l)$ (true iff l is a list).

Lists are used to represent containers in RDF. They are also needed to capture the meaning of certain constructs (such as cardinality constraints) in richer ontology languages.

Most axioms provide typing information. For example,

$$Type(subClassOf, Property)$$

says that $subClassOf$ is a property. We use predicate logic with equality. Variable names begin with ?. All axioms are implicitly universally quantified.

Here we show the definition of most elements of RDF and RDF Schema. The axiomatic semantics of the full languages is found in an online document; see Fikes and McGuinness (2001) in suggested reading.

2.7.2 Basic Predicates

The basic predicates are

$PropVal(P, R, V)$**,** a predicate with three arguments, which is used to represent an RDF statement with resource R, property P, and value V

$Type(R, T)$**,** short for $PropVal(type, R, T)$, which specifies that the resource R has the type T

$$Type(?r, ?t) \longleftrightarrow PropVal(type, ?r, ?t)$$