4.5 OWL2 Profiles 123

```
owl:assertionProperty :isRentedBy ;
owl:targetIndividual :Frank .
```

If the owl:assertionProperty points to datatype property, we use owl:targetValue instead of owl:targetIndividual.

Note that if we know that an individual is not a member of a certain class, we can also state this explicitly by asserting it to be a member of that class's complement:

```
:BaronWayApartment rdf:type [ owl:complementOf :LuxuryApartment ] .
```

4.5 OWL2 Profiles

The OWL2 specification includes a number of so-called *profiles*: some of these are well-known subsets of the OWL2 DL specification while others are more expressive but do not have the full semantics of OWL2 Full. The motivation for providing these profiles is that many existing ontologies tend to use only a particular subset of the language constructs available in DL. A significant increase of reasoner performance can be achieved through reasoning using a less expressive language. A standard library of logical profiles with a particularly likeable tradeoff between expressiveness and computational complexity can be very useful in practice.

In particular the profiles are:

- restricted by *syntax*. The semantics of a profile's syntax is provided by the OWL2 DL specification.
- defined by logics that can handle at least some interesting inference service in polynomial time with respect to either:
 - the number of facts in the ontology, or
 - the size of the ontology as a whole.