

SWRL to DL

An ontology contains the following SWRL rules:

```
p(?X, ?Y) -> q(?Y, ?X)
q(?X, ?Y) -> p(?Y, ?X)
```

```
p isInverseOf q
```

```
Car(?X), hasMaker(?X, ?M), inCountry(?M, Italy) -> ItalianCar(?X) .
```

```
Car and hasMaker some (inCountry value Italy) subClassOf ItalianCar
```

```
Person(?X), hasChild(?X, ?Y), Person(?Y), hasChild(?X, ?Z), Person(?Z),
differentFrom(?Y, ?Z) -> PW2C(?X) .
```

```
Person and hasChild min 2 Person subClassOf PW2C
```

Your goal is to replace these rules with equivalent OWL axioms (that produce the same inferences). These axioms can be of the form <expression> subClassOf <expression>, <expression> subPropertyOf <expression>, <property> isInverseOf <property>, <property> isTransitive, etc.

Example:

```
Car(?X), driver(?X, ?D) -> Person(?D) .
```

can be replaced by

```
Car subClassOf driver only Person
```