Assignment 3: OWL ontologies with Protégé

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Modifications of the spice ontology from assignment 2

- I redefined `Herb` as an intersection between `Seasoning` and `Leaf` and made all the herbs an instance of seasoning.

```
Herb EquivalentTo Leaf and Seasoning
```

- I added unions to the `PlantPart`, `Cuisine` and `EdibleSeed` classes consisting of all their subclasses

```
Cuisine EquivalentTo CulturalCuisine or EthnicCuisine or RegionalCuisine or
ReligiousCuisine or StyleOfCuisine
```

```
PlantPart EquivalentTo Aril or Bark or Berry or Bud or Bulb or Kernel or Leaf
or Pericarp or Pistil or Rhizome or Root or Seed
```

```
EdibleSeed EquivalentTo Cereal or Legume or Nut or Pseudocereal
```

- I added a class of food called `FlavorBase` consisting of mixtures containing aromatic vegetables and Fat

```
Mixture and (contains some Fat) and (contains some AromaticVegetable)
```

- I added a symmetric relation between foods `goesWellWith`

```
:goesWellWith a owl:ObjectProperty , owl:SymmetricProperty ;
    rdfs:domain :Food ;
    rdfs:range :Food .

:Coriander a owl:NamedIndividual , :MildSpice , :Seed ;
    :goesWellWith :Cumin ;
    :hasBotanicalName "Coriandrum sativum" ;
    rdfs:label "Coriander" .
```

Inference

1. All individuals that belong to `Seasoning` and `Leaf` are inferred to be `Herb`, because `Herb EquivalentTo Leaf and Seasoning` for example `Sage` or `Basil`.

2. `Mirepoix`, `Soffrito` and `LatinSoffrito` are inferred to be in the class `Flavorbase` defined as `FlavorBase EquivalentTo Mixture and (contains some Fat) and (contains some AromaticVegetable)`.

3. Given `:RasElHanout :contains :Turmeric` and `:contains owl:inverseOf :isContainedIn` it is inferred that `:Turmeric :isContainedIn :RasElHanout`.

4. Given the symmetric property `goesWellWith` and the statement `:Coriander :goesWellWith :Cumin` the reasoner added the statement `:Cumin :goesWellWith :Coriander` to the ontology.