**Programming Assignment 3: Building an OWL Ontology**

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**Correct Answer to whether there is any inconsistent class.**

The presence of a similar subclass in both "MeatyVegetableTopping" and "VegetarianTopping" categories highlights an inconsistency.

**Explanation of inconsistency:**

The existence of the same subclass, "MeatyVegetableTopping," within both "MeatTopping" and "VegetarianTopping" categories renders them disjoint, leading to the inconsistency.

**Describe a way to resolve the inconsistency.**

To resolve the inconsistency arising from the shared subclass "MeatyVegetableTopping" between "MeatTopping" and "VegetarianTopping," it's necessary to remove the disjointness constraint between the two classes.

**Add two more pizza and explanation:**

I've added two additional pizzas, "ChickenTikka" and "Chicken\_Supreme," to the "NamedPizza" subclass under the "PizzaDomainConcept." These pizzas have properties such as "CrustSize," "NonVeg," "OriginatedFrom," "Sauce," and "Veg."

**Add two more PizzaBase and explanation:**

I have incorporated two additional PizzaBases, namely "HandTossed" and "OvenBaked," within the "PizzaDomainConcept" subclass of "PizzaBase." These PizzaBases can be combined with pizzas to create the desired crust.

**Add two more PizzaTopping and Explanation:**

I have included two additional PizzaToppings, "RedPeppers" and "Oregano," within the "PizzaDomainConcept" subclass of "PizzaTopping."

**Add atleast four more properties:**

I've introduced four new properties: "hasSauce," "hasCrustSize," "hasNonVeg," and "hasVeg." These properties are encapsulated within the "topObjectProperty" with attributes to facilitate their utilization. These attributes enable the specification of pizza characteristics, including sauce type, crust size, non-vegetarian ingredients, and vegetarian ingredients, thereby aiding in the determination of the desired pizza type.

**The first query of your choice:**

(hasSauce some (Ranch or HoneyMustard)) and (hasCrustSize some (ThinCrust or RisingCrust))

**Explanation of the first query:**

We aim to retrieve pizzas featuring sauces, specifically Ranch or Honey Mustard, alongside a Thin Crust or Rising Crust size.

**Screenshot for the first query:**

**A screenshot of a computer

Description automatically generated**

**The second query of your choice:**

(hasOriginatedFrom some (America or Italy or Brazil) and (hasNonVeg some (Chicken or Beef))

**Explanation of second query:**

I have formulated a query to select pizzas originating from America, Italy, or Brazil, with non-vegetarian ingredients comprising at least chicken or beef.

**Screenshot of the second query:**A screenshot of a computer

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