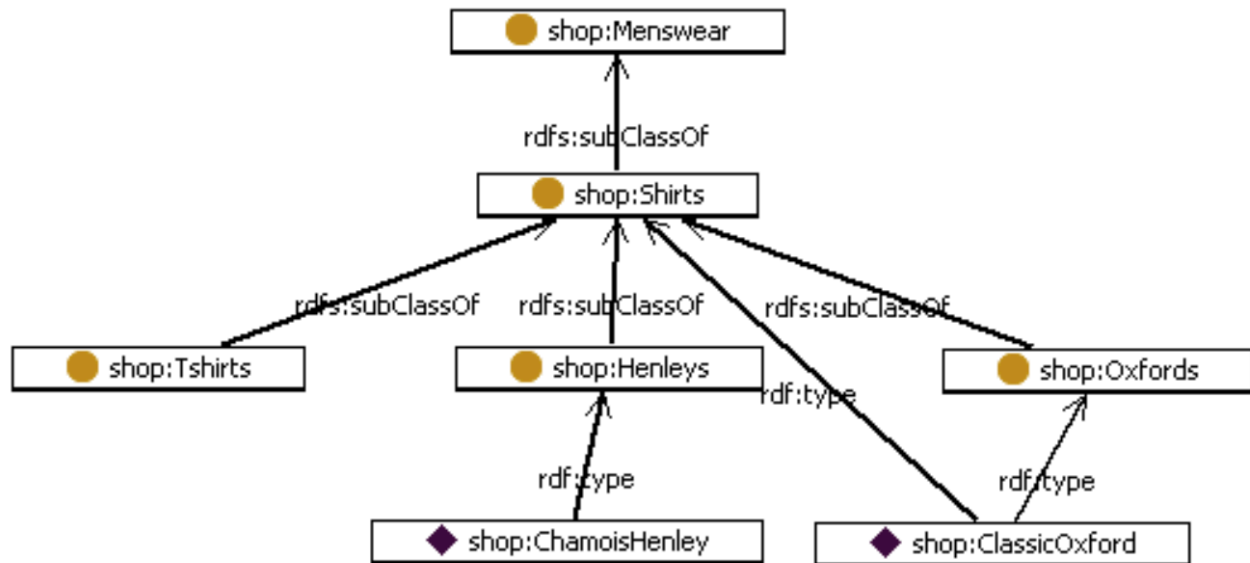


**KRR****Sample Question - RDF/RDFS Inference**

Name: \_\_\_\_\_

Roll No: \_\_\_\_\_

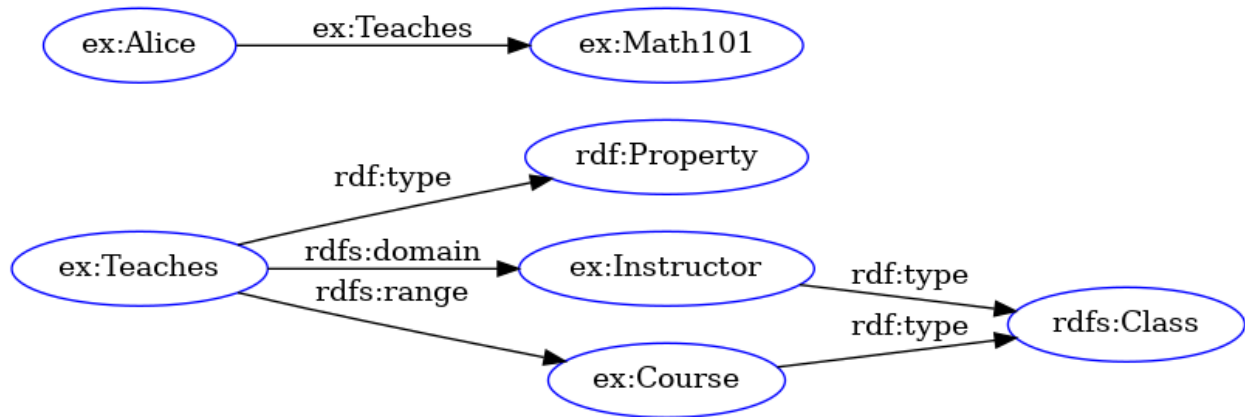
1. Write the following graph in turtle notation. What Inferences are possible with the following graph? Draw with dotted lines. Also explain the reasoning behind each inference.



- 2. Draw RDF Graph for the following RDF Documents. What Inferences are possible with that graph? Write the triples. Also explain the reasoning behind each inference.**

```
ex:Human rdf:type rdfs:Class .
ex:hasParent rdf:type rdf:Property .
ex:hasParent rdfs:domain ex:Human .
ex:hasParent rdfs:range ex:Human .
ex:Tiger rdf:type rdfs:Class .
ex:hasParent rdfs:domain ex:Tiger .
ex:hasParent rdfs:range ex:Tiger .
ex:tina ex:hasParent ex:john .
```

3. What Inferences are possible with that graph? Draw with dotted lines. Also explain the reasoning behind each inference.



Namespaces:  
ex: `http://example.com/`  
rdf: `http://www.w3.org/1999/02/22-rdf-syntax-ns#`  
rdfs: `http://www.w3.org/2000/01/rdf-schema#`

4. **Draw RDF Graph for the following RDF Documents. What Inferences are possible with Write in turtle notation. Also explain the reasoning behind each inference.**

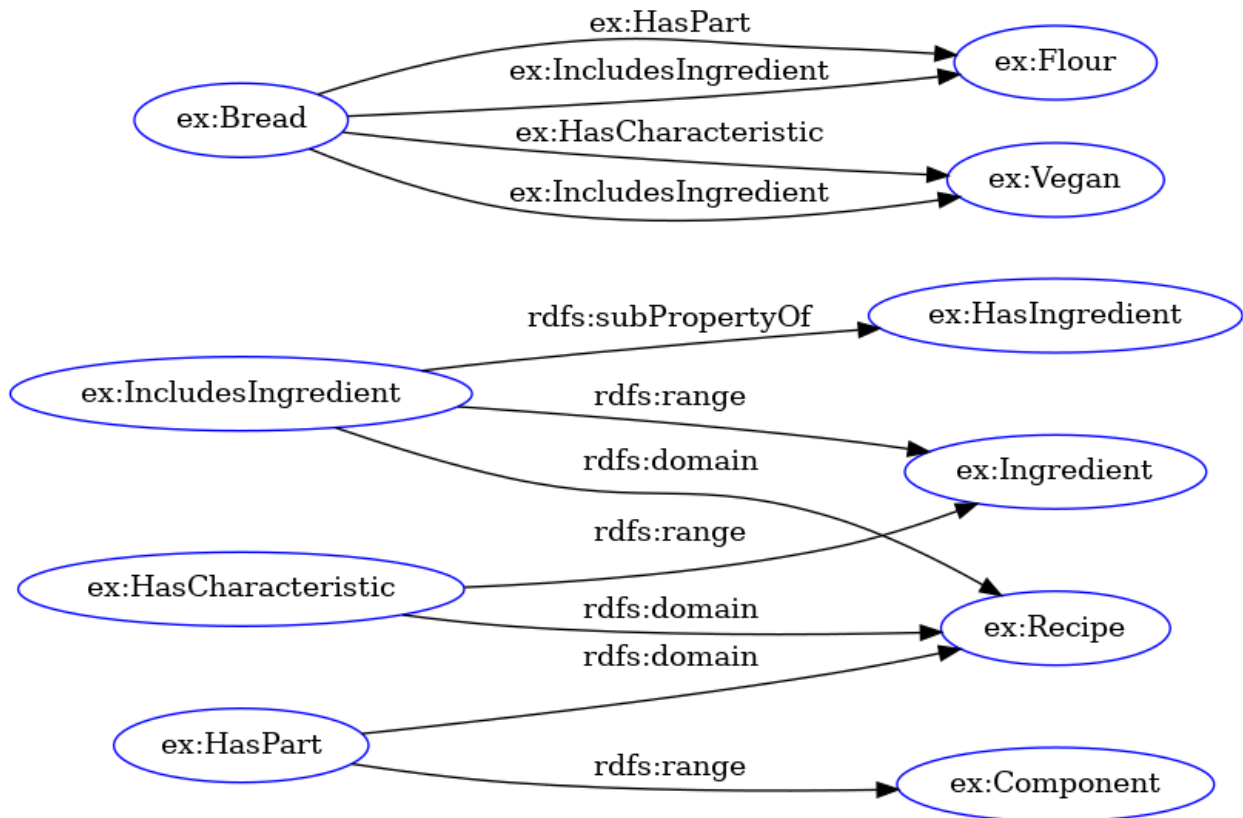
```
ex:HasPart rdf:type rdf:Property .  
ex:Entity rdf:type rdfs:Class .  
ex:Component rdf:type rdfs:Class .  
ex:HasComponent rdfs:subPropertyOf ex:HasPart .  
ex:HasComponent rdfs:domain ex:Entity .  
ex:HasComponent rdfs:range ex:Component .  
ex:Car ex:HasComponent ex:Engine .
```

5. Draw RDF Graph for the following RDF Documents. What Inferences are possible with that graph? Also explain the reasoning behind each inference.

@prefix ex: <http://example.com/> .  
@prefix rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#> .  
@prefix rdfs: <http://www.w3.org/2000/01/rdf-schema#> .

ex:IncludesIngredient rdfs:subPropertyOf ex:HasIngredient .  
ex:IncludesIngredient rdfs:domain ex:Recipe .  
ex:IncludesIngredient rdfs:range ex:Ingredient .  
ex:PastaCarbonara ex:IncludesIngredient ex:Eggs .  
ex:Mushrooms rdf:type ex:VeganIngredient .  
ex:VeganIngredient rdfs:subClassOf ex:Ingredient .  
ex:VeganIngredient rdfs:subClassOf ex:DietaryRestriction .  
ex:DietaryRestriction rdfs:subClassOf ex:FoodRestriction .  
ex:FoodRestriction rdfs:subClassOf ex:Restriction .  
ex:PastaCarbonara ex:IncludesIngredient ex:Mushrooms .

6. Draw RDF Graph for the following RDF Documents. What Inferences are possible with that graph? Draw with dotted lines. Also explain the reasoning behind each inference.



Namespaces:  
 ex: <http://example.com/>  
 rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#>  
 rdfs: <http://www.w3.org/2000/01/rdf-schema#>