

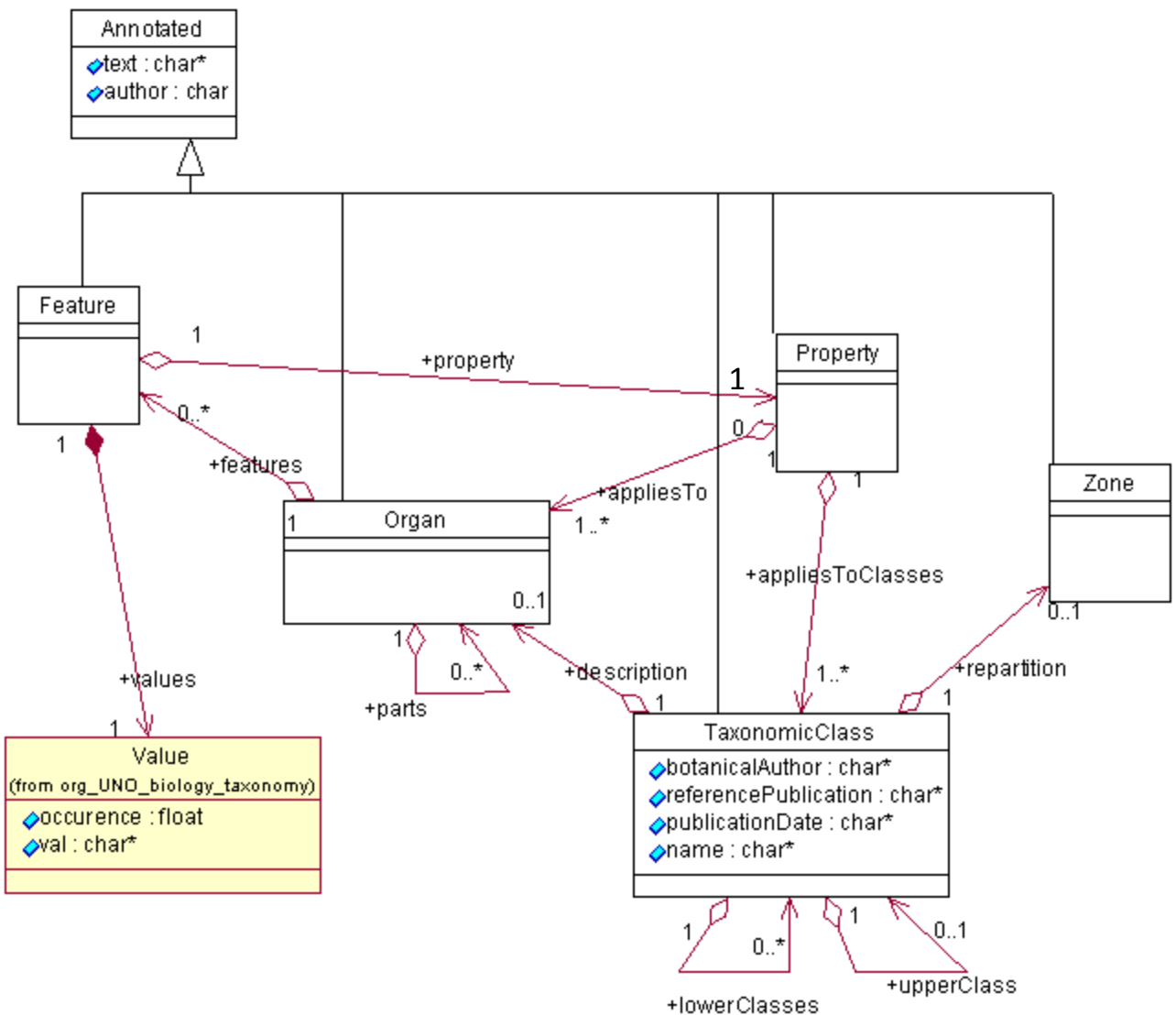
Quiz – Software Design Fall 2011

Given the following class diagram, map it to a corresponding set of Java class definitions. Assume that if an association end does not have an arrow (indicating navigability), then no data member should be created. Further, an association is given a name (e.g., “property”), instead of a pair of role names. In such cases, assume that the association name is the name of both roles. And “char*” is the same as “String”. **Be careful about set-valued and non-set-valued attributes.**

Show ONLY the Java class definitions for the following classes:

Feature
Property
Value

Also include with each class a boolean `validate()` method, that validates cardinality constraint (as indicated by the diagram below) on all navigable arrows. For non-zero –valued cardinalities, check to ensure that there are indeed non-null associations.



A Solution

```
class Feature extends Annotated {
    Value values;
    Property property;
    boolean validate() {
        return values!=null && property!=null;
    }
}

class Value {
    float occurrence;
    String val;
    boolean validate() { return val!=null; }
}

class Property extends Annotated {
    Set<TaxonomicClass> appliesToClass;
    Set<Organ> appliesTo;
    boolean validate() {
        return appliesToClass!=null &&
            appliesToClass.size()>0 &&
            appliesTo!=null &&
            appliesTo.size()>0;
    }
}
```