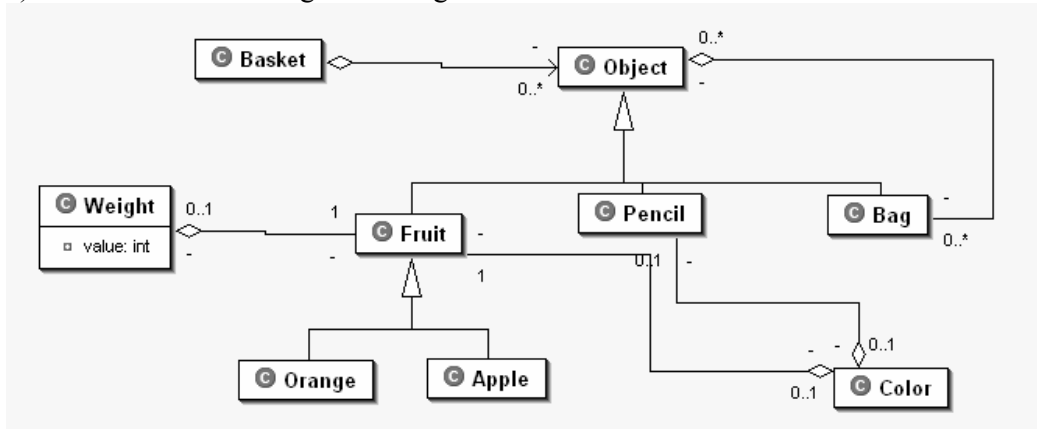


JASCO-AP EXERCISES

Ex 1: Basket Example

a) Consider the following UML diagram:



Download the corresponding project (sessionJAsCoAP.zip) from the website and import it into a new JAsCo project. Do this by File→Import→Zip File.

b) Implement a tracing aspect bean that provides a before advice that logs the visited object to the output stream. Make a traversal connector that traverses a complete basket and instantiates the tracing aspect bean onto the visiting of each object.

Invoke the traversal onto a sample basket instance that contains at least one apple, Bag (containing an apple and orange) and pencil (in the RunTest class).

Invoking a traversal is done by:

```
jasco.Jasco.invokeTraversal("traversal connector name", <starting object>);
```

Ex 2: Validating weight

a) Implement a checking method that allows validating whether the weight of a given Basket instance is below a certain threshold. Use aspect beans and traversal connectors! Also make sure to employ a refinable method to fetch the Weight's value. Otherwise, the aspect bean loses reusability.

HINT: you can store a value in a hook and retrieve it when invoking the traversal as follows:

```
Object value = jasco.Jasco.invokeTraversal("<traversal connector name>",
<starting object>, "<methodname>");
```

Where `methodname` is the name of the getter method in the hook that fetches the value.

b) Add an additional class book, which also contains a weight object. Is your approach to validate the weight still correct?

Ex 3: Color constraints checking

a) All objects in a Bag must have the same color. Objects without a color can be ignored. Implement a method that is able to validate this constraint for a certain Basket instance.

Use aspect beans and traversal connectors!

b) There can be only one Bag that contains objects of a certain color. In other words, when two objects with the same color are contained in different Bags, the constraint is violated. Implement a method that is able to validate this constraint for a certain Basket instance.

Use aspect beans and traversal connectors!