

Introduction to Unified Modeling Language: Class Compartments

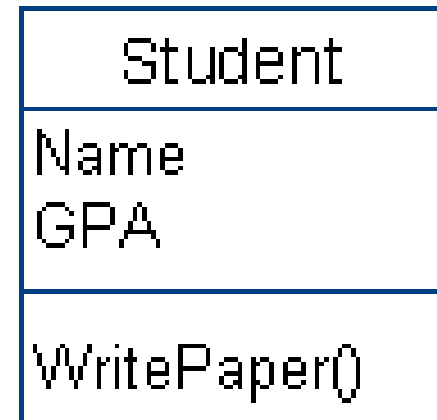
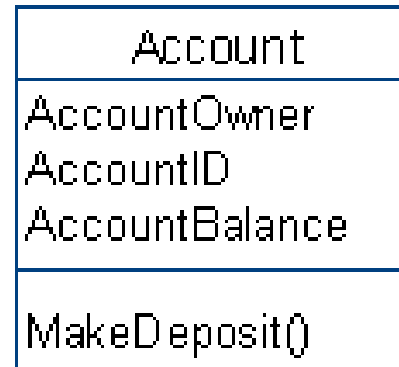
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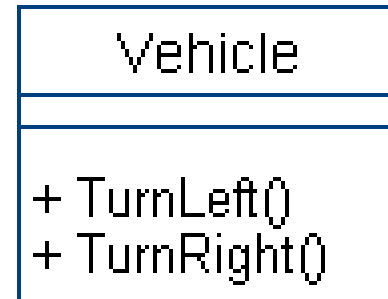
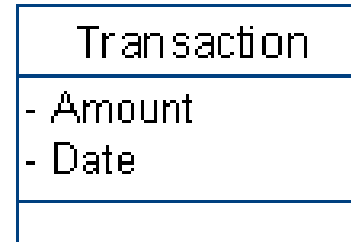
Class Compartment Basics

- The basic Class symbol includes elements in three compartments:
 - The name of the class
 - The class attributes
 - The class operations
- These three elements of the class are always listed first and in this order.
 - Some older books on OOAD reverse the order for displaying attributes and operations. This is an out-of-date convention and not a UML style of notation.



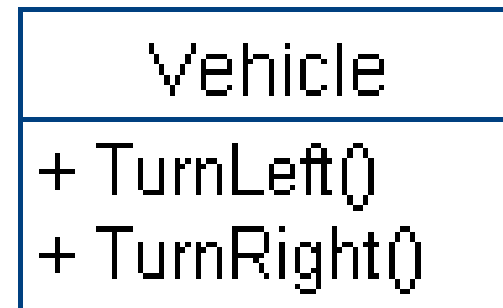
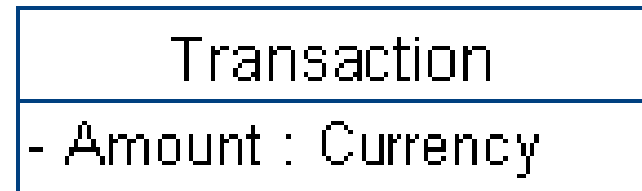
Classes Without Attributes or Operations

- When a class has no operations or attributes (or none are known yet), attribute and operations still should be shown in the appropriate compartments.
- A good convention is to leave the unused compartment shown as blank.



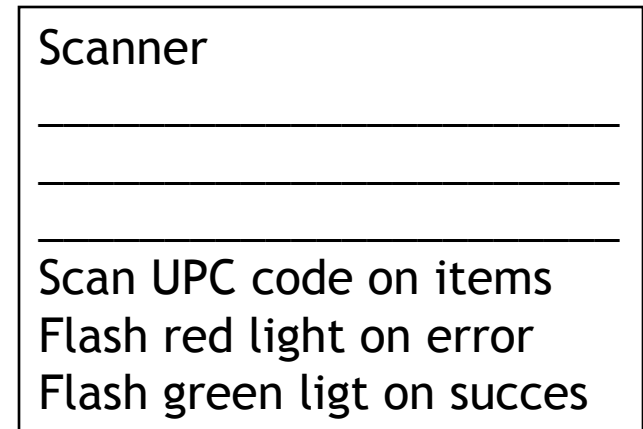
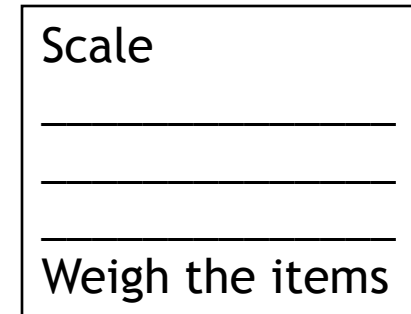
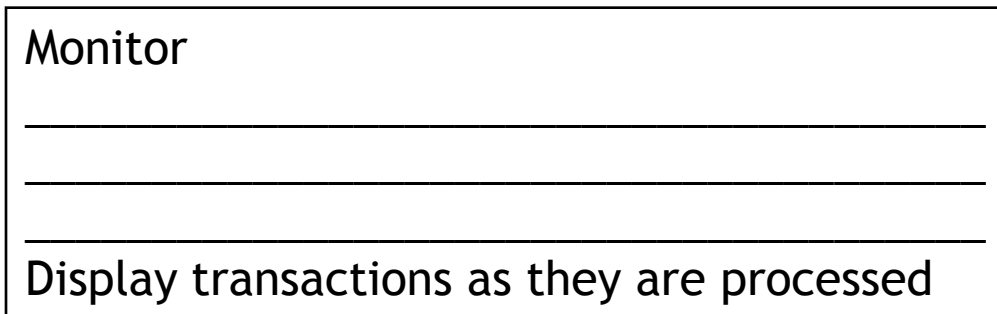
When Compartments are Hidden

- Some tools will hide compartments if they are not used.
- When this is the case, it is important that the information shown helps the reader avoid confusion about if what is shown is an attribute or operation.
- In the examples at right:
 - The signature of “Amount” is in the style of an attribute and not an operation.
 - The use of “()” is not required in UML but helps convey what is an operation.
 - The visibilities used (“-” or “+”) may imply if the elements are attributes or operations.



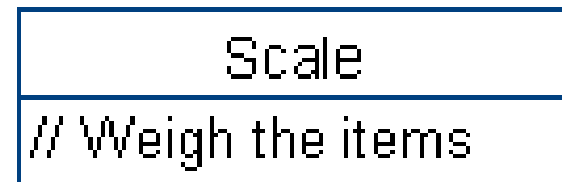
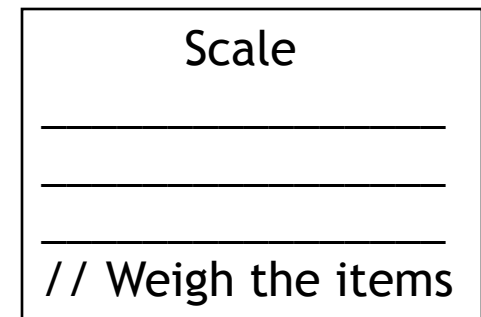
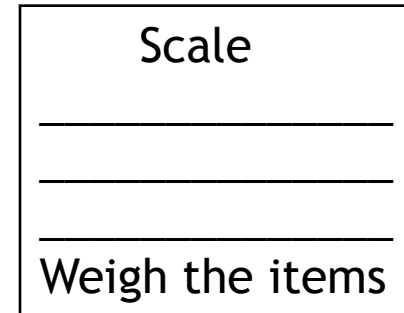
Additional Compartments - Responsibilities

- This is a UML 1.x feature that gets more attention in UML 2.x and is getting better support by tools.
- Most common use to capture responsibilities.



Make Responsibilities Easy to Find

- *Never* put responsibilities in the compartments reserved for attributes or operations.
- Though not part of UML, a common convention is to use “//” before responsibilities.
- It is important to use the “//” or name the compartment if you collapse or hide compartments – i.e. to make clear these are responsibilities and not attributes or operations.



Other Types of Compartments

- UML permits additional compartments beyond attributes, operations and responsibilities.
- Some common conventions exist – e.g. an “Exceptions” compartment.
- Good idea to name the compartment.

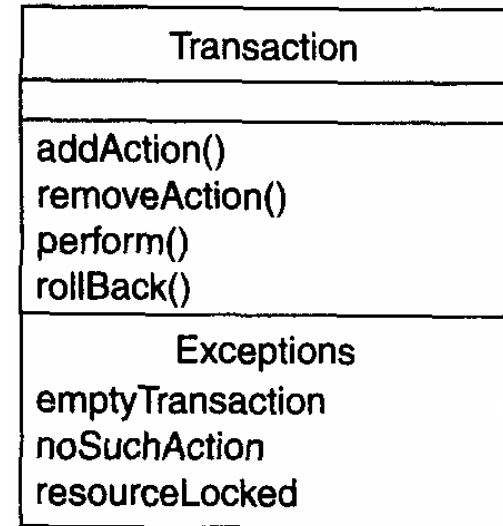
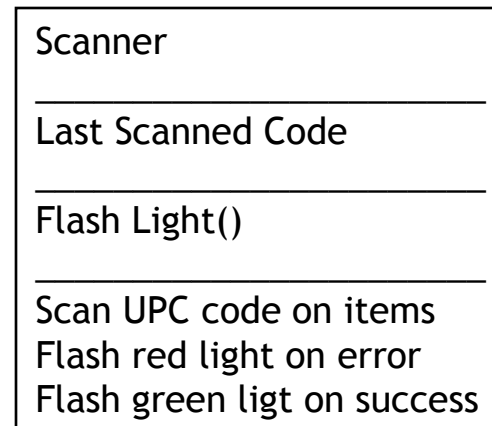
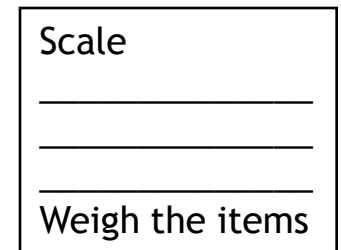
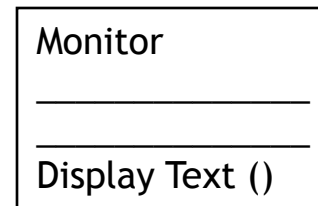
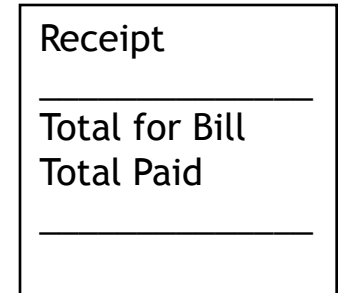


Image from *UML User Guide, 2nd Edition*.

Attributes, Operations and Responsibilities

- It is entirely normal to have a mix in the compartments that are used.
- Not all classes will use every compartment.
- Not all of the details of a class are known or needed at the same time.



Questions?

