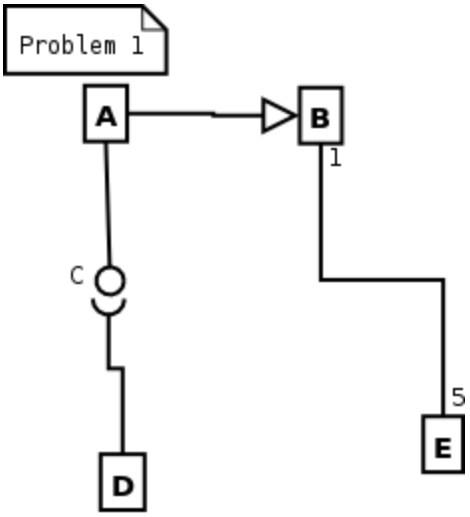
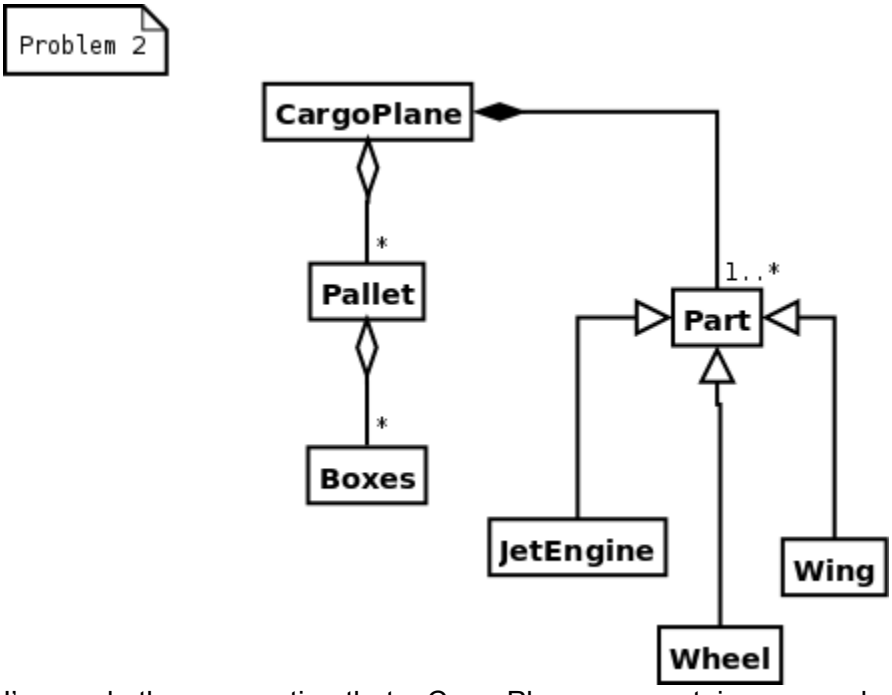
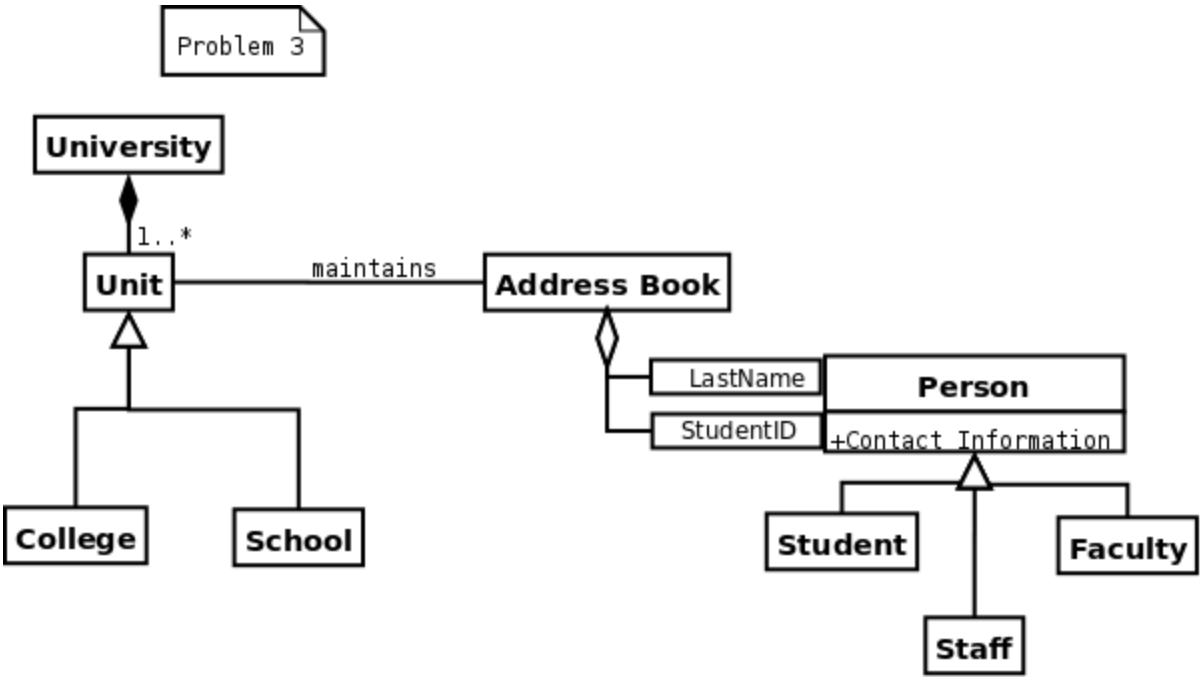
Matthew Beldyk
CSCI 5448 - Object Oriented Design and Analysis
Jan 24, 2010
Homework 2





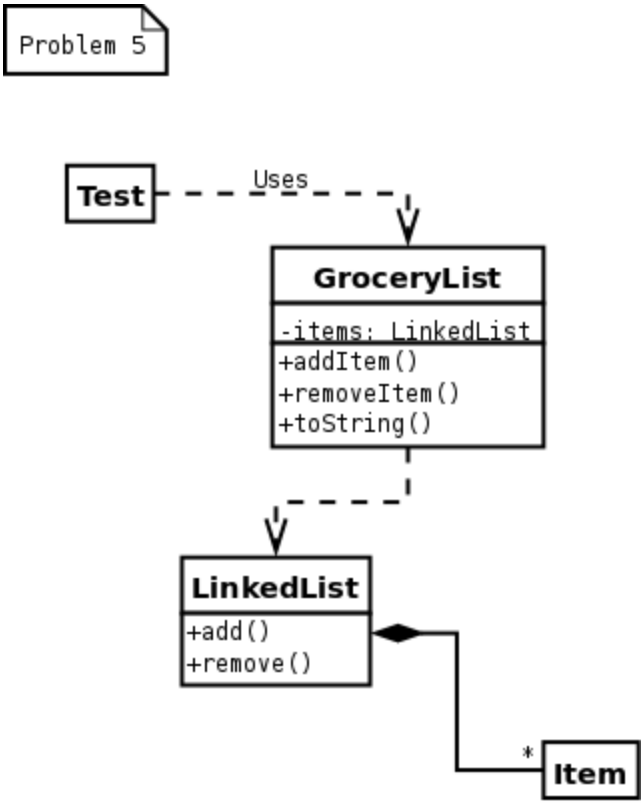
I've made the assumption that a CargoPlane can contain any number of parts, not specifically 4 wheels, 1 engine, 2 wings, etc. This is due to the existence of biplane CargoPlanes (with more wings) and pontoon boats with no wheels.



Problem 4)

The short answer is no. A inherits from B, not the other way around. A implements C, but B does not, thus D cannot access B via the interface C.

This of course, assumes that the entire class model is described in the diagram. If the diagram failed to mention things about B and what B implements, then there is a possibility that the answer is yes, but that the diagram is being redundant about interfaces.



Problem 6)

The engineer has violated the idea of loose coupling. The entire system relies on each subclass's of shape implementing getArea() and getPerimeter() correctly, and any changes or bugs in this code will ripple outwards to the rest of the system.