Week of June 23, 2014

Topics for this week: Object Oriented Design

Activity Checklist

	Read chapter 6 in your course packet.
	Review the slides Introduction to Object Oriented Design
	Review the Box class program. The complete program is here
	Complete lab #12. It is due by 11:59pm on Tuesday.
	Complete lab #13. It is due by 11:59pm on Thursday.

Learning Goals

It is expected that you will meet the objectives outlined here by the end of the week. You might want to test yourself to see how well you fare. You can be guaranteed that you will be tested on these concepts on your next exam. By the end of this unit, you should be able to:

- explain what a class is, and the relationship between objects and classes.
- correctly create a class in a program, including member data and member methods.
- create correct and accurate UML class diagrams.
- explain the notion of encapsulation and why it is important.

Reading Assignment

1. Chapter 6 of the course packet will introduce you to the notion of a class.

Key Concepts

Be sure that you understand the following important ideas presented in this unit.

1. Any time that you find yourself wanting to use a set of closely related data elements in a program, or you are modelling something in the real world, you should consider creating an **object** to hold and manage that data.
2. A **class** is a *blueprint* that your program uses to create objects. An object is said to belong to a given class.
3. All objects share two characteristics: They all have **state** and **behaviour**
4. We represent the state of an object in the object's **data members.**
5. In a class (the blueprint) data members are almost always declared as **private**.
6. Private data cannot be seen from outside of an object. It is hidden from view.
7. Behaviors are defined by writing **member methods** in the class (the blueprint) from which an object is derived.
8. We create UML class diagrams to describe a class and the relationships between classes.

Lab Assignment

This week you should complete labs 12 and 13.
* Lab #12 will introduce you to class diagrams.
* Lab #13 shows you how to integrate a class into a GUI program.

A class is sort of a software blueprint that your program uses to create objects. The class describes all of the

data elements in an object and provides the functions that will manipulate that data.