

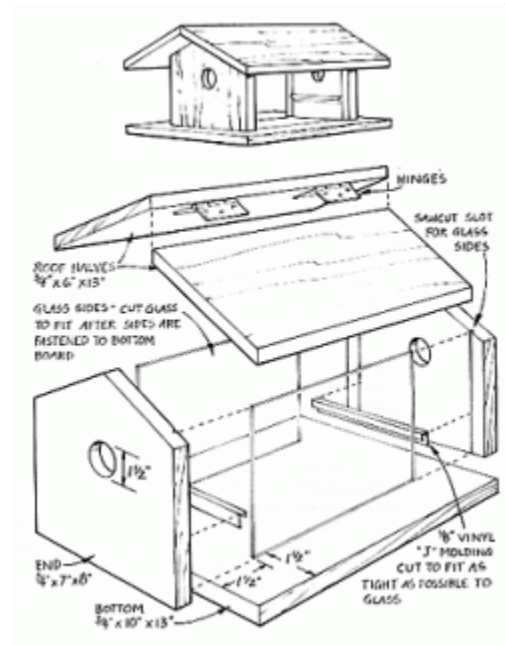
CITP 190 - Intro to Programming in JAVA

Chapter 6 Notes

What is a class?

You have been using classes in all of the JAVA programming you have been doing. Sometimes it has been obvious, as when you use the Math class. Other times it has not been as obvious; System.out is a class. The program itself is a class.

A class can be thought of as a pattern or blueprint or plan. Look at the plan for a bird feeder¹ shown below.



You could make several bird feeders from this plan. You could make one out of oak, one out of maple, and one out of plywood. You could paint one with white sides and a green roof. You could paint another one with blue sides and a yellow roof. You could paint still another one with gray sides and a red roof. They would all be the same except for the color and the wood that you used.

In this case, the class would be bird feeder. Each individual bird feeder is an object or instance of that class.

Each bird feeder has attributes that may vary from bird feeder to bird feeder. The things that we have identified so far are the type of wood, the color of the sides, and the color of the roof. In JAVA, these would be the instance variables of the class.

The bird feeder also has two actions. You can fill the bird feeder and you can empty the bird feeder. Every bird feeder you make from this plan will have these two actions and behave in the same way. In JAVA, these would be the methods of the class.

In object-oriented terminology the fact that the class contains both the attributes and the actions is called **encapsulation**.

¹ Retrieved from <http://www.squidoo.com/bird-feeder-plans> on October 31, 2011.