Access Attributes

In Java you can declare properties such as variables and methods to be

- public
- protected
- private

You also have the option of saying nothing about access.

To see the difference in these, you need to be aware that classes in Java can be collected into groups called *packages*. We won't do much with packages in 151, but you should know they exist.

public properties can be seen and modified anywhere in the program.

protected properties can be seen and modified anywhere within their package. They can also be inherited by subclasses. So if you are writing a system for a bank and you have a protected variable balance within a class called UserAccount, even if you don't let anyone see your UserAccount code, someone can get access to the balance variable by making a subclass of UserAccount.

private properties are visible only within their classes. They can't be inherited by subclasses.

The default access level (when you say nothing about access) is to make properties visible within their package, but not to subclasses outside their package. This is the level of protection you get if you don't say the property is public, protected or private.