JAVAC JAVA

**Introduction to Packages**

Package Statements: first at the top

* Package package-name ;

**Packages Part 1:**

Java provides the ability to secure the members of a package using access modifiers: public, private, protected, & default (aka package-private)

**Packages - Access Modifiers**:

* pertaining to classes, constructors, methods, & variables

**PUBLIC** ACCESS MODIFIER

* The public access modifier allows full access to all members of the same package and full access to members of other packages – basically everything.

**DEFAULT** ACCESS (AKA PACKAGE-PRIVATE) NO-MODIFIER

* When no modifier exists in a declaration statement, then the default (aka package-private) access is applied. Default access allows full access to only members of the same package.

**PROTECTED** ACCESS MODIFIER

* Protected access allows full access to all members of the same package – exactly like default access. In addition, access is granted to subclasses of another package through inheritance only.

**PRIVATE** ACCESS MODIFIER

* The private access modifier only allows access to code inside of the current class. Packages are irrelevant when it comes to this access modifier.

**OTHER NOTEWORTHY STUFF**

Standard classes (outer) can only have either **public** or **default** access, they cannot be marked protected or private. There is a common misconception that the access level of a class (outer) somehow controls the access level of its members. For example, a default access level class can have a public method; a public subclass will inherit that public method from within the same package. A class outside of the package can access the method through inheritance by extending the public subclass or by simply creating an instance of the public subclass.

Public Class

* allows access from any other class from any other package
* other classes can create instances of this class
* other classes can inherit from this class

Public Method

* allows outside classes to invoke this method