Java - Week 07 Discussion

Java has many built-in packages, that are automatically imported into each program, for programmers to use at their disposal. In addition, programmers can create their own “user defined” packages which can contain classes and methods to accomplish a certain functionality. Packages improve organization and reusability of the written code. Importing packages into your program gives you access to all of the classes contained within the given package. This allows us to write code once and then reuse it in other projects which saves a lot of time, and for companies a lot of money.

**Notes -** <https://beginnersbook.com/2013/03/packages-in-java/>

**PACKAGES:**

* A pack (group) of classes, interfaces, and other packages
* Used to organize classes and interfaces
* Types of Packages in Java:
* Built - In:

Example: import java.util.Scanner

* Java 🡪
* util 🡪
* Scanner 🡪
* User Defined:

**ADVANTAGES** of using Packages:

* Reusability:
* Organization:
* Name Conflicts:

**USER DEFINED:**

* Declare Package in the First statement of the program
* package PackageName;
* Create a Class inside the Declared Package
* Classes can have only 1 package declaration
* Using the Package in another program by importing the Package
* Classes can have 1+ Package Import Statements
* import PackageName.ClassName; 🡪 imports specific class from that package
* import PackageName.\*; 🡪 imports all classes w/in that package
* Create Class Inside Package While Importing Another Package:
* Package Declaration 1st 🡪 then Package Import Statement 2nd

Ex.

* Using Fully Qualified Name:
* Avoids Import Statement
* Creates an Object of that Class

Ex. PackageName.ClassName object = new PackageName.ClassName();

SUB-PACKAGES:

* A Package inside of another Package
* Declare Sub Package
* package PackageName.SubPackageName;
* Access Sub Package in Another Program
* Simply import the Sub Package 🡪 same as the Sub Package declaration
* Use Fully Qualified Name 🡪

Package.SubPackage.Class object = new Package.SubPackage.Class();

IMPORTANT POINTS TO REMEMBER:

* When Class name conflicts occur: