**CS 112 - Package and Jar Notes**

**Create a Package Name for your project and enter that name without the name of the project into the two java source files we will be using:** Chess.java and Board.java located on the K: drive

1. Choose a **package name** - reverse domain to avoid same names and lowercase.  
 The package name is composed of the reverse domain plus the **name of your   
 project** (for example: MyPkg or ChessPkg as shown below).

e.g. edu.miracosta.MyPkg or e.g. edu.miracosta.ChessPkg

2. **Add package statements** in the **two** **source code files** (Chess and Board - they   
 must be **first** before any import statements and **do not include** the **name** of your   
 **project** (e.g. MyPkg or ChessPkg). **SAVE** the files (**do not compile yet**).

e.g. package edu.miracosta; // statement **same** for either package name shown   
 in **step #1**

**Create a directory structure for your Project starting with your project name as the first directory** (using Explore or My Computer) – View the accompanying chart to see how it should look.

1. Create a **folder** with your package name (e.g. **MyPkg**) on the desktop, C:drive or   
 your flashstick.

2. In that folder with your project name, create a **folder** called **source** and a  
  **folder** called **classes**. **In** the **source** folder, create a **folder** called **edu** and  
 in the edu folder create a **folder** called **miracosta**.

3. Next **move** the **Chess**.java and **Board**.java files into the **miracosta** folder.

Note: you could create the other side of the directory starting with the Classes   
 folder, but the following compile command will take care of that side automatically.

**Compile using javac and the -d directory flag** (using a command line interface**):**

When the javac command is run, it will not only compile the classes but create a matching directory structure for the class files. The **class compiled code** will be in a **folder** named **miracosta** which **must** be in a folder named edu which **must** be inside the Classes folder. (See accompanying chart)

1. Bring up the DOS command prompt – Start menu, type cmd in Search, hit Enter

2. **Get to** your **source directory** - e.g. cd **MyPkg/source**

Note: to get to the root directory (C:), type cd .. as many times as needed

or to get to another directory (F:), type f: and hit enter

3. Compile all classes with -d flag using the command below.

**javac -d ../classes edu/miracosta/\*.java**

**At this point you have a completed directory structure and all your classes have been compiled. Try running your code to make sure it works.**

1. In the DOS command prompt window, get to your **classes** directory - e.g. cd **..** and   
 then cd classes.

2. Run indicating the .class file with the main() method

**java edu.miracosta.MyPkg.Chess** (use **capital C** here - name of class)

3. You should see the Chess game come up. At this point, type in **resign** to get out of   
 the game for now.

**Make an executable JAR which will include your package:**

1. Create a **manifest.txt** file which states which class has the **main method**()

2. In **notepad**, e.g. create the following line and be sure to **hit an ENTER** after the   
 statement

**Main-Class: edu.miracosta.Chess**

3. Save the file and quit notepad

4. **Add** the **manifest.txt** file to the **Classes** folder

5. Get to your classes directory - e.g. MyPkg/classes

6. Run the **jar tool** to create a JAR file that contains the package directories plus the  
 manifest

**jar -cvmf manifest.txt MyPkg.jar edu**

**Running or executing the JAR (equivalent to an executable file)**

1. From the DOS prompt, get to your classes directory - e.g. cd MyPkg/classes

2. Execute the JAR

**java -jar MyPkg.jar**

3. The Chess game should appear again. Close it again by typing in the word **resign**.

**List the contents of a JAR:**

1. Let’s see what is actually in the JAR you just created.

2. From the DOS prompt, get to your classes directory - e.g. cd MyPkg/classes

2. List the contents of the JAR at the command line with the following statement.

**jar -tf MyPkg.jar**

**Copy the JAR file from the MyPkg or yourName directory and execute it directly as if you had sent it to a friend:**

1. Copy the MyPkg.jar Archive file from your Project Directory

2. Paste it on the desktop.

3. From the DOS prompt, get to C:\desktop

4. Execute the JAR

**java -jar MyPkg.jar**

**Go to the Classes directory (using Explore or My Computer) and try executing the jar directly by double-clicking on it.**

1. Windows does not allow this to happen in later versions (e.g. Windows 7). It does   
 work in Windows XP.

**Play the Chess game:**

1. You may want to **read** the **rules** before you start playing.