# Assignment 8 for CPTN202

**Name:** Multiple External Java Classes Demonstrating Inheritance and Polymorphism

**References:**

* The text book
* Previous Documents and Code created by you
* Any other resource you can find other than people

### Assignment Description:

You are to create a series of Java Program source files demonstrating multiple related classes using inheritance. You will also be required to provide a detailed description of the program along with conclusions.

The application you create for Assignment 7 must contain the following features.

* Multiple Classes
  + Default
  + User Defined Class 1
  + User Defined Class 2
  + User Defined Class 3
* Use of Properties
* Use of Methods
* Use of Inheritance
* Use of Polymorphism

It is CRITCAL you reuse the same classes from Assignment 7. You SHOULD NOT make any changes to the classes, other than comments and class names. Do not add any methods or properties, unless you were missing any based on Assignment 7.

The application code for this assignment will be changed and hopefully is the only thing that you need to change. First, you can remove the file operations, if you wish. Your choice. Second, you may do this in a GUI or as a console application. Again, your choice. The application should create one generic array for the base class and assign to the elements different (all three) types of objects, all based upon the base class. Then use a method that is explicitly common to all classes for each of the elements (objects) in the array. Demonstrate that the different method is called based on object type. This can simply be done by having the method “announce” itself.

Additional details on program requirements, format and construction are provided in class.

### Assignment Deliverables:

1. A single Java program source file containing your application source code. The base name of this file must be **CPTN202\_A8\_Application\_*lastname*.java** where *lastname* is your actual last name.
2. A single Java program source file containing your first class source code. The base name of this file must be **CPTN202\_A8\_Class1\_*lastname*.java** where *lastname* is your actual last name.
3. A single Java program source file containing your second class source code. The base name of this file must be **CPTN202\_A8\_Class2\_*lastname*.java** where *lastname* is your actual last name.
4. A single Java program source file containing your third class source code. The base name of this file must be **CPTN202\_A8\_Class3\_*lastname*.java** where *lastname* is your actual last name.
5. A Microsoft Word 2010 document with the following contents and sections. Each major bullet needs to be a new section. The name of this file must be **CPTN202\_A8\_Description\_*lastname*.docx** where *lastname* is your actual last name.

* Title page
  + Document name
  + Author
  + Creation Date
  + Course Number
* Table of Contents
* Introduction
* A one paragraph description of what the application does
* A description of the program variables and objects
* A description of the source code including
  + The list and correct sequence of steps used to accomplish the task
  + A description of what occurs in a section of code
  + A description of how the variables and objects “change” as a result of executing each section of code
* Captured Program Output
* Conclusions about the application
* Conclusion
* References documented using APA style
* Appendix (if needed)

### Strenuously Recommended Approach:

See Previous Assignments for details.

Post the deliverables to Blackboard via the “Assignment 8” link.

You will be submitting five files. They are:

* CPTN202\_A8\_Description\_lastname.docx – Your design document
* CPTN202\_A8\_Class1\_lastname.java – The first class source file
* CPTN202\_A8\_Class2\_lastname.java – The second class source file
* CPTN202\_A8\_Class3\_lastname.java – The third class source file
* CPTN202\_A8\_Application\_lastname.java – The application source file

Use the above link for assignment submissions. Do not submit assignments via the Blackboard Digital Drop Box or forums. Do not use e-mail attachments. Do not hand in hard copies of documents. Please zip them into a single file that has the .zip extension. That is do not use any other zip utilities other than the default from Microsoft Windows. They should not have extensions like .tar, .gz7, .gzip, .rar or anything else, requiring me to use any other zip utilities. The zipped file should only contain these files. Do not zip a folder or directory.