CIS 410/510: User Interface Programming
Programming Exercise #1
Understanding Basic Events

Due February 1 2007 8:30 am
Purpose: The goal of this assignment is to understand the basics of interactive programming software through Java.

Chapter 4 of the Olsen book, *Developing User Interfaces*, explains the basics of event handling, which is at the core of interactive software. However, it does not specifically describe the Java programming language.

1. Draw a tree diagram that shows the classes of widgets available in the Java AWT/SWING.

2. What are the user interface events that are supported in Java?

3. Describe how Java handles the "main event loop". Compare this to the descriptions of other systems described in your text and in the lecture on January 23.

4. Write a Java program that implements a Calculator with currency conversion.

> This device is intended as a small desktop accessory for a personal computer or palm computer. It should be a direct manipulation user interface. Overall purpose is to have a convenient calculator that allows you to do basic math functions for shopping etc. and then conversion to another currency. The simple calculator should be able to add, multiply, divide and subtract decimal numbers. It should operate using either a mouse or typed input. It should handle error feedback to the user and have help available. You might think of other functionality to add, but make it central to the purpose. Remember that currency conversions change so you will have to have some way of editing. For example, the Canadian dollar was worth $.74 in US dollars in September 1997; it's now worth $.85.

Turn-in your written answers to Questions 1-3, the path to your Java source program and executables on the CIS computers, and the version of Java you are using. All of your Java code (.java & .class) must be world-readable, and the directory that contains your java code must be world-executable. (You can set this the day you hand it in to me.) Please be sure your program will run on the CIS system (Java version 1.5.0_8)