**CS 2302 Test 3**

***All answers to discussion questions must be in complete sentences and grammatically correct.***

Problems #1 & 2 are worth 10 points each and the remaining problems are worth 20 points each. Thus, one of the last 5 problems is treated as a bonus problem.

Since many of the problems are similar to assignments and/or labs, I expect (and encourage) you to feel free to “cut and paste” from your previous work.

1. What are the differences between event driven programming and the style of programming discussed in CS 2301 and most of CS 2302.

**Event driven programming is executed when an event occurs( e.g., a button clicked, or a mouse movement). The other style of programming is called procedural order and that executes in the order that you wrote the code.**

1. In Java, what is the purpose of a listener and how does it accomplish that purpose?

**A listener is like a method that is waiting for an object to trigger it so that it can perform its duties. It accomplishes this purpose by having an object register the listener and the listener object must be an instance of the corresponding even-listener interface to ensure that the listener has the correct method for processing the event.**

1. Write a program that continually prompts the user for two integers (base and exponent) and then displays the value of the base raised to the exponent power until the user selects to terminate. All input and output needs to be done using dialog windows (JOptionPane). All potential errors need to be handled.
2. Write a program that animates raising a flag. Use the attached flag image.
3. Do problem 15.13 on page 510 of the text.
4. Write a program that displays a flashing label. The label should stop flashing when the mouse is pressed and resume flashing when the mouse is released.
5. Write a program that will display 4 random playing cards every time a button labeled “deal” is pressed.