**CS 3173 Assignment 8 14 points**

**chapter 11**

**Due 10/30**

**Email your homework to me at** [**harringp@nsuok.edu**](mailto:harringp@nsuok.edu)

**Part 1: Problem Solving: Type your answers (8 points):**

1. What is a finite state machine? **– An abstract model of a machine that has a finite number of states it can be in, which can be changed based on input.**
2. What are the six parts of a finite state machine? **– A finite set of input symbols, output symbols, and states, as well as a next-state function, an output function, and and an initial state.**
3. What is a state transition diagram? **– A graph of a finite state machine with nodes that represent the states and edges that depict the transition between states**
4. What determines the transitions in an excitation table for a J-K flip flop? **– What inputs will cause the flip-flop to transition between states**

**Part 2: Java Programming (6 points):**

Write a Java program to create the present states, input, and next states from the excitation table for a 2-bit counter shown below:

