Suggested Exercises 3 (Due 2/9/2014 in class)

1. Suppose each C statement is atomic in the following code. Create the execution order tree with all possible variable values. (See slide 11 in the Cooperating Threads lecture.)

   Thread A          Thread B
   x=3;              y=2;
   x=y-1;            y=x+1;

2. Why does locking via disabling interrupts not work on multi-processor architectures?

3. Write pseudo code to implement a “Too Much Milk” solution with two threads (robots) using the test_and_set() operation to implement mutual exclusion. Remember to define the Lock::Acquire() and Lock::Release() functions.