Homework Assignment #4 (100 points)

1. What is the difference between a process and a thread? What is the difference between user level thread and kernel level threads? (10 points total; 5 points each)

2. Describe the process of starting up a program. Be as detailed as possible. (5 points)

3. What is a memory fence? How does it differ from base/bounds registers? (10 points)

4. List the algorithms used to allocate memory to processes and describe each one. (15 points – 3 points each)

5. List the six methods that can isolate processes from each other and the operating system. Provide 2 characteristics for each method. (15 points total – 2.5 points per method).

6. List the four solutions to virtual address space discussed in class. Provide 2 characteristics for each solution (10 points total)

7. List five (5) components of UNIX/Windows processes (10 points)

8. What is the difference between the two alternative methods used to keep track of free memory? (10 points)

9. Describe the process state transition for a generic process. List the various states as well as the transitions between the states. Where is the process state kept? (15 points)