1. Suppose that the keyboard device stored keystrokes in a buffer until it was full then sent the entire buffer for processing. What would be some adverse consequences? (Two or three sentences should be adequate to answer this question)
2. Suppose that all programs in a particular CPU are given 50 clock cycles to process before getting swapped out for another program. Suppose also, that it takes 5 CPU clock cycles to swap out the process control block (PCB) for a particular program and restore the next program’s PCB. What percent of the CPU clock cycles are used for processing 100 programs? (Hint: calculate: Program clock cycles / (Swap clock cycles + Program clock cycles)). Show your work and how you arrived at the solution.
3. How many 512 byte blocks are required to store a 1.6MB file?
4. Perform the Round-Robin dispatch algorithm, with time quantum equal to 300 milliseconds, on the job queue and calculate:

Job 1 arrives at time 0 and needs 500 milliseconds to complete.

Job 2 arrives at time 300 milliseconds and needs 400 milliseconds to complete.

Job 3 arrives at time 400 milliseconds and needs 200 milliseconds to complete.

Job 4 arrives at time 400 milliseconds and needs 500 milliseconds to complete.

1. The average wait time. (Hint: average the number milliseconds each job was in a wait state)
2. Average turn-around-time. (Hint: for each job, count the number of milliseconds from arrival to completion and average)