TUTORIAL TWO

Processes and Threads

1. Indicate whether the following statements are true or false. Justify your answers.

   a) A ready process waiting to get access to the CPU is in the “waiting” state.

   b) A ready queue is a queue of Process Control Blocks (PCBs) of all processes in the “ready” state.

   c) The “wait()” system call is generally used by a child process to wait for instructions from a parent process.

   d) Message passing based Inter-Process Communication (IPC) consumes less memory than shared memory based IPC.

2. What are two main differences between the data and stack regions of a process memory?

3. Explain the difference between a single-threaded and a multi-threaded process.

4. The figure below shows the execution of processes P0 and P1 in a multiprogramming system.
   a) Identify state transitions of each process.

   b) Describe operations A, B, C and D performed by the operating system kernel.