HOMEWORK 2

1. When processes executing concurrently in the operating system, they might be independent or cooperating processes. In this scenario, when we need interprocesses communication? Why? Give details of your answers.
2. Compare direct and indirect communication?
3. As we described in the class, a signal may be received either synchronously or asynchronously, explain, when a signal will receive synchronously, when a signal will receive asynchronously?
4. All resources attached to a process are shared between threads in the process. Suppose two threads are waiting for same I/O device, such as a keyboard. Will this cause a problem? Does this problem ever occur in single threaded processes? Give details.
5. As we described in the class, there is no protection between threads of a process, what kinds of problems this can cause? Explain.
6. What are the properties of threads make them different then processes?
7. Explain the different between user threads and kernel threads?
8. What are the benefits of using threads instead of creating new processes?
9. In a web server, if we don't have threads, that might cause some problems. What kinds of problems might occur?
10. Assume in a basic word document, we have automatic save, reformatting, and check spelling threads, they are running in one word process together. Is it possible to create three different processes to do same job in same file? Describe your answers.
Hint; just think about windows operating systems, processes are independent.