

Operating Systems

Spring 2015 – Quiz 3

1. Define a process.

A process is a program that is being executed on a computer.

2. Describe the sequence of events that happens when a program calls the `fork` system call.

When `fork` is called a new process is created that is a duplicate of the calling process, and that new process has the same context (open files, etc.) but it is completely separate. It begins executing at the point the parent left off, and the parent process also continues on from that point.

More often than not, when a process calls `fork`, the child process does not continue on as a duplicate; it replaces itself with a new program by calling one of the `exec` system calls.

3. Define a thread.

A thread is single 'thread' of control within a process. A process can have many threads, each executing a different part of the code in parallel (or pseudo-parallel).

4. When there are multiple threads in one process, what is **private** to each thread and what is **shared**? List at least two items in each list.

Private	Shared
Program counter Registers Stack	Heap and static address space Open file descriptors Process id And much more ...