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## Process Creation:

- Parent process create children process, which in turn create other processes, forming a tree of processes.
- Generally, process identified and managed via a process identifier (pid)
- Resource sharing options
  - → Parent and children share all resources
  - → Children share subset of parent's resources
  - → Parent and children share no resources.
- Execution Options:
  - → Parent and children execute concurrently
  - → Parent waits until children terminate

## Process Termination:

- Process executes last statement and then asks the operating system to delete it using the exit() system call.
  - → Returns status data from the child to parent process.
  - → Process resources are deallocated by operating system.
- Parent may terminate the execution of children process using the abort() system call. Some reasons for doing so.
  - → Child has exceed allotted resources
  - → Task assigned to child is no longer required
  - → The parent is exiting and the OS does not allow a child to continue if its parent terminates.

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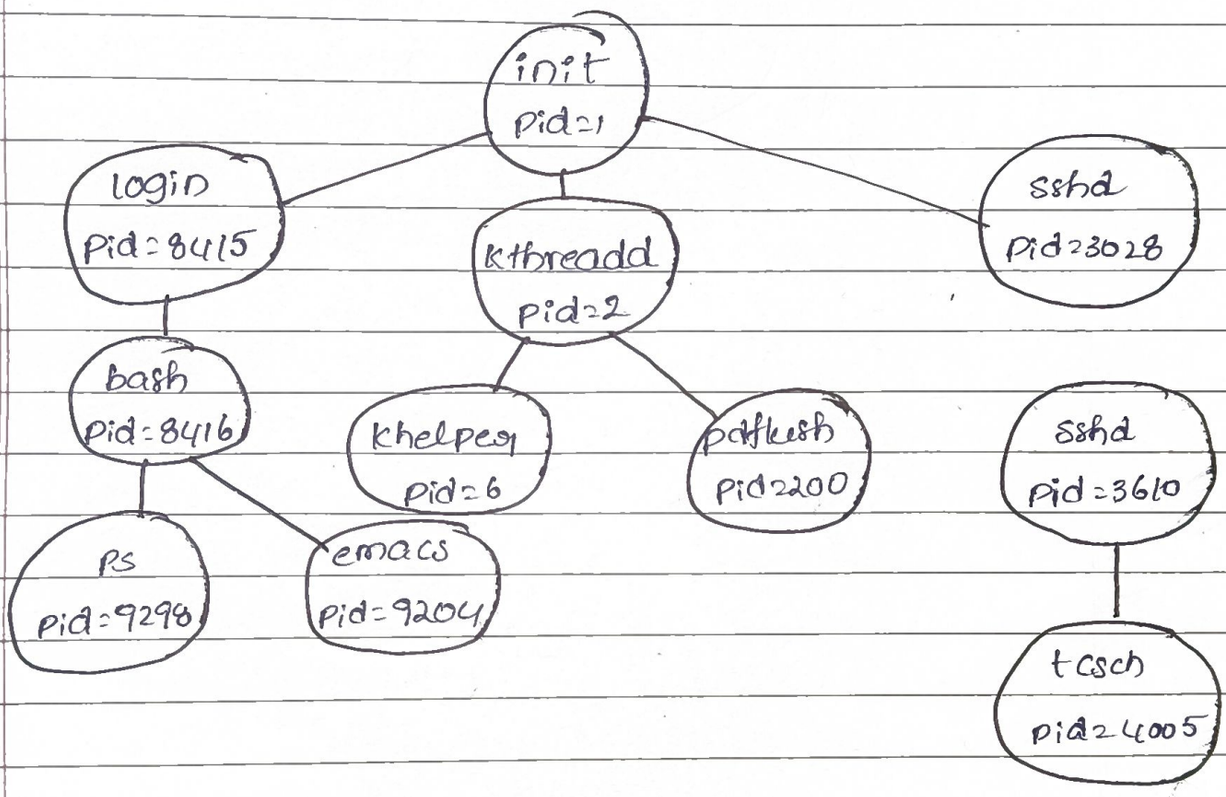
- Some operating systems do not allow child to exists if its parent has terminated. If a process terminates, then its all children also be terminated.

## A Tree of Process in Linux




- fork() system call creates new process
- exec() system call used after fork() to replace the process memory space with a new program
- exit() system call delete the process