

1. I believe that system designers chose to have these signals handled by the operating system so that the signal catching done by the individual processes can be avoided, eliminating any uncertainty that the processes handled these signals incorrectly.
2. The benefit we receive from using `pause()` is that this function will halt a process until a signal is received, giving us the option to continue with the process after receiving a signal. On the other hand, an infinite while-loop would indefinitely cause the process to be stuck at that loop, even if signals are received.
3. We mask the signals we do not wish to receive so that we can have control over which signals the signal handler will respond to.
4. We don't mask the `SIGALRM` signal during a timeout because this signal is a timer signal that is crucial in the implementation of timeouts, as it will be sent to the calling process after a certain amount of time. Masking this would eliminate this timer.