Assignment 121: What happens when we register a handler for a signal?

To understand the differences between a process and a thread, let's break down their definitions and characteristics:

1. Process:
A process is an instance of a program that is being executed by the operating system. It consists of the program code, its current activity, and the required resources, such as open files and memory space. Each process has its own virtual address space and is scheduled independently by the operating system.

Key characteristics of a process:
- Has its own virtual address space.
- Is scheduled by the operating system.
- Has a unique process ID (PID).
- Can have different priorities and access rights.
- Can communicate with other processes using inter-process communication (IPC) mechanisms.

1. Thread:
A thread is a smaller unit within a process that can execute code concurrently along with other threads. It shares the process's memory space and other resources. Threads enable multithreading, which allows a single process to perform multiple tasks simultaneously.

Key characteristics of a thread:
- Shares the process's memory space.
- Is scheduled by the operating system within the context of its parent process.
- Has a unique thread ID (TID).
- Can have different priorities and access rights within the same process.
- Can communicate with other threads using inter-thread communication mechanisms.

In summary, processes and threads are related but distinct concepts. A process is a larger entity that encapsulates a program's execution, while a thread is a smaller, lightweight unit within a process that can execute code concurrently.