POSIX (Portable Operating System Interface)
-set of standards specifying a common set of functionalities that compliant operating systems should provide
-developed by the IEEE (Institute of Electrical and Electronics Engineers)
-to ensure compatibility between various Unix-like operating systems

Key features:
Standardization:
- define the APIs, shell interfaces, utilities for compatible operating systems.
Compatibility:
- aims to enhance portability and interoperability among different Unix-like systems
- programs written should run on any compliant system without modification

Key Components:
- Shell and Utilities
  standard shell (command interpreter)
  set of utilities (basic commands)
- System Interfaces:
  Defines APIs for functions such as I/O operations, process control, signals, and more.

- Extensions:
  POSIX allows for system-specific extensions,
  the core functionalities defined by POSIX should be present for compatibility.

- Application Portability:
  primary goals of POSIX is to promote the portability of applications across different operating systems.

eg. POSIX.1 (core services), POSIX.2 (shell and utilities), POSIX.4 (threads), POSIX.5 (real-time), and others.

Many Unix-like operating systems, including Linux and various versions of Unix, aim to comply with POSIX standards.

POSIX threads
- often referred to as Pthreads
- standard thread API specified by the POSIX standard for Unix-like operating systems
- Pthreads provide a standardized interface for thread creation, synchronization, and communication between threads.