1. Define cross-toolchain and explore what is inside a cross-compiling toolchain.

Cross-Toolchain Definition:

- A set of tools for cross-compiling software.

- Enables building for a target architecture different from the host.

Components Inside a Cross-Compiling Toolchain:

- **Cross-Compiler**: Generates code for the target architecture.

- **Linker**: Connects and creates the final executable.

- **Assembler**: Translates assembly code to machine code.

- **Standard C Library (libc**): Adapted for the target system.

- **Header Files:** Target-specific declarations and definitions.

- **Runtime Libraries:** Support for executing programs.

- **Loader**: Loads and executes programs on the target.

- **Debugging Tools:** (e.g., GDB) for target-specific debugging.