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.