Modules

Why Do We Need Modules?

As your codebase grows, you don't want everything in a single file. It gets messy, hard to read, and maintain. That's where Rust's **module system** comes in!

Modules help us:

- Organize code into smaller chunks

- Reuse code

- Control what is public or private

- Avoid naming conflicts

Basic Terminology

- **Module (mod)**: A container for functions, structs, enums, etc.

  - use key word for importing modules

- Binary crate vs lib crate

  - Binary crates which we an executes

  - Lib crates are used by Binary crates

  - Hierarchy

    - Packages

      - Crates

        - Modules

  - Exercise : Learn and use External crates, Cargo commands

  - Exercise : Copy all custom module code in main.rs and understand what changes are required.

  - Exercise : Use struct vs enums in modules and understand how public private works with struct

- Exercise : Use one module in another module file