* Explain the concept of recursion and how it can simplify certain problems.

Recursion is a programming technique where a function calls itself to solve a problem by breaking it into smaller, simpler subproblems.

Every recursive function has two essential parts:

Base Case – When to stop recursion.

Recursive Case – When the function calls itself.

Examples of Recursion :

Tower of Hanoi

File System traversal

Fibonacci sequence

Maze solving

**How Recursion Simplifies Problems**

* Breaks Down Complex Tasks

Problems like tree traversal, backtracking, or mathematical sequences can be naturally divided into smaller versions of themselves.

* Cleaner, Shorter Code

Recursive code is usually more elegant and easier to read than equivalent loops