

What is the difference between global and local scope of a variable?

A global variable is defined outside any function and can be accessed and modified anywhere in the program. A local variable is defined inside a function and can only be accessed within that function. Local variables are created when the function starts and destroyed when it ends, whereas global variables exist throughout the program. Using local variables prevents accidental changes to global data and keeps functions independent.

What is a recursive function?

A recursive function is a function that calls itself either directly or indirectly to solve a problem. It usually has a base case to stop the recursion and prevent infinite loops. Recursive functions are useful for tasks that can be broken down into smaller, similar sub-tasks, such as calculating factorials, Fibonacci numbers, or traversing tree structures.