**Understand Recursive Algorithms**

**Recursion** is a method of solving a problem where the solution involves solving smaller instances of the same problem. A recursive function calls itself with a subset of the original input.

**Base Case**: The condition under which the recursion stops. **Recursive Case**: The part of the function where the recursion happens.

Recursion can simplify problems that can be broken down into similar sub-problems, such as calculating factorials, Fibonacci sequences, or in our case, financial forecasting.

**2. Setup**

We will create a method to calculate future values using a recursive approach. Let's assume we have the following parameters:

* currentValue: The current value of the financial metric.
* growthRate: The rate at which the value is expected to grow.
* years: The number of years into the future we want to forecast.

**Optimizing the Recursive Solution**: To avoid excessive computation, particularly in cases where the function might be called multiple times with the same parameters, we can use **memoization**. Memoization