**DN4.0 WEEK 1 RECURSION FINANCIAL FORECASTING**

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

Recursion is a programming concept where a method or function calls itself to solve a smaller instance of the same problem. It simplifies problems that have a natural hierarchical or repetitive structure, such as tree traversal, factorial calculation, or computing Fibonacci numbers. Instead of writing complex loops, recursion breaks the problem into smaller subproblems, solves each one, and combines the results.

For the financial forecasting tool we use this formula for recursion:

Future Value=Present Value×(1+growthRate)^n