1. **Understand Recursive Algorithms:**

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

Answer:-

FV(years) = FV(years - 1) \* (1 + rate)

Base Case: FV(0) = initial value

1. **Setup:**

Create a method to calculate the future value using a recursive approach.

Answer:-

FV(years) = FV(years - 1) \* (1 + rate)

Base Case: FV(0) = initial value

**3. Analysis:**

* + Discuss the time complexity of your recursive algorithm.

Answer:-

**Time Complexity = O(n)** where n is the number of years.

* + Explain how to optimize the recursive solution to avoid excessive computation.

Answer:-

Use a loop instead of recursion to avoid stack overflow and improve performance