♦ **What is Recursion?**

Recursion is a method where the solution to a problem depends on solutions to smaller instances of the same problem.

A recursive function calls itself until it reaches a base case.

♦ **Example in financial forecasting**

If you know the present value and the growth rate, you can recursively compute the future value over n years like:

FutureValue(n) = FutureValue(n-1) * (1 + growthRate)

FinancialForecast.java

```java
public class FinancialForecast {

    public static double forecastValue(double currentValue, double growthRate, int years) {

    if (years == 0) {

      return currentValue;

    }

    return forecastValue(currentValue, growthRate, years - 1) * (1 + growthRate);

  }

  public static void main(String[] args) {

    double presentValue = 10000;

    double annualGrowthRate = 0.10;

    int years = 5;
```

```java
        double futureValue = forecastValue(presentValue, annualGrowthRate, years);

        System.out.printf("Forecasted value after %d years: ₹%.2f%n", years, futureValue);

    }

}
```

OUTPUT:

Forecasted value after 5 years: ₹16105.10