Tutorial 10

1. What is a recursive method. Briefly explain.

A recursive method is a method that calls itself repeatedly to solve a problem that depends on smaller instances of the same problem.

2. What is identified as an iteration. Briefly explain

Iteration is the repetition of a process or a set of instructions in order to generate a sequence of outcomes.

3. What is Factorial and Fibonacci. Show how they can be used both as recursive.

Fibonacci	Factorial
This is a mathematical occurrence in which numbers follow a specific sequence of integers	Products of positive integers that are either less than or equal to “n” with ”n” being the factorial of a positive integer.
Always occur in sums of what are known as”shallow” diagonals in Pascal’s triangle and Lozanic’s triangle.	Seen in many different mathematical fields, most commonly in combinatorics, algebra and mathematical analysis.

public static long fibonacci(int n)
{
if (n == 1) return 1;
if (n == 2) return 1;
return fibonacci(n-1)+fibonacci(n-2);
}
But in here it takes forever to calculate 50^{th} number.
	public static double lnFactorial(int n)
	{
	if (n == 1) return 0;
	return Math.log(n) + lnFactorial(n-1);
	}
	
	This works perfectly fast with n up to approximately 10000.