LP3 (DAA) Lab Exp No.1

import java.util.Scanner;

public class Fibonacci {

public static int fibonacci(int n) {

if (n <= 1)

return n;

return fibonacci(n - 1) + fibonacci(n - 2);

}

public static void recursive(int n) {

for (int i = 0; i < n; ++i)

System.out.print(fibonacci(i) + " ");

System.out.println();

}

public static void iterative(int n) {

int a1 = 0;

int a2 = 1;

System.out.print(a1 + " " + a2 + " ");

for (int i = 2; i < n; i++) {

int a3 = a2 + a1;

a1 = a2;

a2 = a3;

System.out.print(a2 + " ");

}

System.out.println();

}

public static void main(String[] args) {

Scanner scanner = new Scanner(System.in);

System.out.print("Enter the number of Fibonacci numbers for recursive method: ");

int recursiveCount = scanner.nextInt();

recursive(recursiveCount);

System.out.print("Enter the number of Fibonacci numbers for iterative method: ");

int iterativeCount = scanner.nextInt();

iterative(iterativeCount);

scanner.close();

}

}

OUTPUT: -

