# DAA Pract 1

//RECURSIVE

import java.util.Scanner;

class Fibonacci {

// Recursive Fibonacci method

public static int fibonacci\_recursive(int n) {

if (n == 0) {

return 0;

}

if (n == 1) {

return 1;

}

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

}

public static void main(String[] args) {

Scanner sc = new Scanner(System.in);

System.out.print("Enter the number of terms: ");

int n = sc.nextInt();

// Print Fibonacci series up to n terms

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

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

}

sc.close();

}

}

//NON RECURSIVE

import java.util.Scanner;

class Fibonacci {

public static void fibonacci\_iterative(int n) {

int prev1 = 0, prev2 = 1;

// Print the first term if n >= 1

if (n > 0) {

System.out.print(prev1 + " ");

}

// Print the second term if n >= 2

if (n > 1) {

System.out.print(prev2 + " ");

}

// Calculate and print the remaining terms

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

int current = prev1 + prev2;

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

prev1 = prev2;

prev2 = current;

}

System.out.println();

}

public static void main(String[] args) {

Scanner sc = new Scanner(System.in);

System.out.print("Enter the number of terms: ");

int n = sc.nextInt();

// Print Fibonacci series up to n terms

fibonacci\_iterative(n);

sc.close();

}

}