**PROGRAM 3 : FIBONACCI SERIES USING RECURSION**

**PROGRAM :**

**package** PROGRAMS;

**import** java.util.Scanner;

**public** **class** Fibonacci {

// Recursive method to find nth Fibonacci number

**public** **static** **int** fibonacci(**int** n) {

**if** (n == 0) {

**return** 0; // Base case

} **else** **if** (n == 1) {

**return** 1; // Base case

} **else** {

**return** *fibonacci*(n - 1) + *fibonacci*(n - 2); // Recursive step

}

}

**public** **static** **void** main(String[] args) {

Scanner sc = **new** Scanner(System.***in***);

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

**int** n = sc.nextInt();

System.***out***.println("Fibonacci sequence up to " + n + " terms:");

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

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

}

sc.close();

}

}

**OUTPUT :**

Enter the number of terms (n): 5

Fibonacci sequence up to 5 terms:

0 1 1 2 3

Enter the number of terms (n): 7

Fibonacci sequence up to 7 terms:

0 1 1 2 3 5 8

Enter the number of terms (n): 1

Fibonacci sequence up to 1 terms:

0

Enter the number of terms (n): 0

Fibonacci sequence up to 0 terms:

Enter the number of terms (n): 10

Fibonacci sequence up to 10 terms:

0 1 1 2 3 5 8 13 21 34