Assignment 1

```
import java.util.Scanner;

public class FibonacciProgram {

    // Recursive function to get the nth Fibonacci number
    public static int fibonacciRecursive(int n) {
        if (n <= 1)
            return n;
        else
            return fibonacciRecursive(n - 1) + fibonacciRecursive(n - 2);
    }

    // Iterative function to print Fibonacci series
    public static void fibonacciIterative(int n) {
        int a = 0, b = 1, temp;
        for (int i = 0; i < n; i++) {
            System.out.print(a + " ");
            temp = a + b;
            a = b;
            b = temp;
        }
        System.out.println();
    }

    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);

        System.out.print("Enter the number of Fibonacci terms to display: ");
        int n = sc.nextInt();

        System.out.println("Choose the method:");
        System.out.println("1. Recursive");
        System.out.println("2. Iterative");
        System.out.print("Enter your choice (1 or 2): ");
        int choice = sc.nextInt();

        System.out.println("Fibonacci series up to " + n + " numbers:");

        if (choice == 1) {
            for (int i = 0; i < n; i++) {
                System.out.print(fibonacciRecursive(i) + " ");
```

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            }
            System.out.println();
        } else if (choice == 2) {
            fibonacciIterative(n);
        } else {
            System.out.println("Invalid choice. Please enter 1 or 2.");
        }

        sc.close();
    }
}
```

Output

```
Enter the number of Fibonacci terms to display: 6
Choose the method:
1. Recursive
2. Iterative
Enter your choice (1 or 2): 2
Fibonacci series up to 6 numbers:
0 1 1 2 3 5

=== Code Execution Successful ===
```