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Lab Practical #15:

Implementation of parity bit check Using C/Java language with example.

Practical Assignment #15:

C/Java Program: Implementation of Bit stuffing Using C/Java language.

1. **Enter the binary data: 011111101111110**
   Bit-stuffed data: 011111010111111010
2. **Enter the binary data: 111110111111**
   Bit-stuffed data: 1 1 1 1 1 0 0 1 1 1 1 1 1 0 1

```
import java.util.Scanner;

public class ParityCheck {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        System.out.print("Enter binary data (without parity bit): ");
        String data = sc.nextLine();
        int countOnes = 0;
        for (char bit : data.toCharArray()) {
            if (bit == '1') {
                countOnes++;
            }
        }
        int parityBit = (countOnes % 2 == 0) ? 0 : 1;
        String transmitted = data + parityBit;
        System.out.println("Transmitted data with parity bit: " + transmitted);
        System.out.print("Enter received data: ");
        String received = sc.nextLine();
        int ones = 0;
        for (char bit : received.toCharArray()) {
            if (bit == '1')
                ones++;
        }
        if (ones % 2 == 0) {
```

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```
            System.out.println("No error detected ");
        } else {
            System.out.println("Error detected ");
        }
    }
}
```

Output:

```
Enter binary data (without parity bit): 011111101111110
Transmitted data with parity bit: 0111111011111100
Enter received data: 0111111011111100
No error detected
```