Student Name: More Shivraj Vijay

Roll Number: 44

Exp4: Implementation of TCP Client & TCP Server to check string is Palindrome or NOT.

Program: TCPServer.java

```java
import java.io.*;
import java.net.*;

public class TCPServer {
    public static void main(String[] args) {
        try{
            ServerSocket srvr = new ServerSocket(1234);
            System.out.println("Server is listening on port 1234...");

            Socket skt = srvr.accept();
            System.out.println("Client has connected.");

            BufferedReader in = new BufferedReader(new
InputStreamReader(skt.getInputStream()));

            PrintWriter out = new PrintWriter(skt.getOutputStream(), true);

            String inputString = in.readLine();
            System.out.println("Received string: " + inputString);

            String response = isPalindrome(inputString) ? "The string is a palindrome." : "The string
is not a palindrome.";

            out.println(response);

            in.close();
            out.close();
            skt.close();
            srvr.close();
        } catch (Exception e) {
            System.out.println("Oops! It didn't work");
        }
    }

    public static boolean isPalindrome(String str) {
        int left = 0, right = str.length() - 1;

        while (left < right) {
```

```java
            if (str.charAt(left) != str.charAt(right))
                return false;
            left++;
            right--;
        }
        return true;
    }
}
```

Program: TCPClient.java

```java
import java.util.Scanner;
import java.io.*;
import java.net.*;

public class TCPClient {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        try{
            Socket skt = new Socket("localhost", 1234);
            BufferedReader in = new BufferedReader(new
InputStreamReader(skt.getInputStream()));
            PrintWriter out = new PrintWriter(skt.getOutputStream(), true);

            String inputString = sc.nextLine();

            out.println(inputString);

            String response = in.readLine();
            System.out.println("Server Response: " + response);

            in.close();
            out.close();
            skt.close();
        } catch (Exception e) {
            System.out.println("Oops! It didn't work");
        }
    }
}
```

Output of TCPClient:

C:\VS Code\Java>java TCPClient

Malayalam

Server Response: The string is not a palindrome.

C:\VS Code\Java>java TCPClient

malayalam

Server Response: The string is a palindrome.

Output of TCPServer:

C:\VS Code\Java>java TCPServer

Server is listening on port 1234...

Client has connected.

Received string: Malayalam

C:\VS Code\Java>java TCPServer

Server is listening on port 1234...

Client has connected.

Received string: malayalam