

1. TCP Client, TCP Server

```
import java.io.*;
import java.net.*;
class TCPClient {
    public static void main(String argv[]) throws Exception
    {
        String sentence;
        String modifiedSentence;
        BufferedReader inFromUser =
            new BufferedReader(new InputStreamReader(System.in));
        Socket clientSocket = new Socket("172.16.102.68", 6789);
        DataOutputStream outToServer =
            new DataOutputStream(clientSocket.getOutputStream());
        BufferedReader inFromServer =
            new BufferedReader(new InputStreamReader(clientSocket.getInputStream()));
        sentence = inFromUser.readLine();
        outToServer.writeBytes(sentence + '\n');
        modifiedSentence = inFromServer.readLine();
        System.out.println("FROM SERVER: " + modifiedSentence);
        clientSocket.close();
    }
}

TCP Server
import java.io.*;
import java.net.*;
class TCPServer {
    public static void main(String argv[]) {
        try {
            ServerSocket welcomeSocket = new ServerSocket(6789);

            while (true) {
                Socket connectionSocket = welcomeSocket.accept();
                new ClientHandler(connectionSocket).start();
            }
        } catch (IOException e) {
            e.printStackTrace();
        }
    }

    static class ClientHandler extends Thread {
        private final Socket clientSocket;
        public ClientHandler(Socket socket) {
            this.clientSocket = socket;
        }
        public void run() {
```

```
try {  
    BufferedReader inFromClient = new BufferedReader(new  
InputStreamReader(clientSocket.getInputStream()));  
    DataOutputStream outToClient = new  
DataOutputStream(clientSocket.getOutputStream());  
    String clientSentence = inFromClient.readLine();  
    String capitalizedSentence = clientSentence.toUpperCase() + "\n";  
    outToClient.writeBytes(capitalizedSentence);  
    clientSocket.close();  
} catch (IOException e) {  
    e.printStackTrace();  
}  
}  
}  
}
```