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**Assignment No.9**

**Problem Statement:** Write a program using TCP socket for wired network for following:

1. Say Hello to Each other 2. File transfer

**Code:**

**Server Side:**

import java.io.\*;

import java.net.\*;

public class Server {

public static void main(String[] args) {

final int PORT = 12345;

try {

ServerSocket serverSocket = new ServerSocket(PORT);

System.out.println("Server started. Waiting for a client...");

Socket clientSocket = serverSocket.accept();

System.out.println("Client connected: " + clientSocket.getInetAddress());

// Say Hello

BufferedReader reader = new BufferedReader(new InputStreamReader(clientSocket.getInputStream()));

PrintWriter writer = new PrintWriter(clientSocket.getOutputStream(), true);

String clientMessage = reader.readLine();

System.out.println("Client: " + clientMessage);

writer.println("Hello from server!");

// File Transfer

InputStream fileStream = clientSocket.getInputStream();

FileOutputStream fileOutput = new FileOutputStream("received\_file.txt");

byte[] buffer = new byte[1024];

int bytesRead;

while ((bytesRead = fileStream.read(buffer)) != -1) {

fileOutput.write(buffer, 0, bytesRead);

}

System.out.println("File received successfully.");

fileOutput.close();

fileStream.close();

reader.close();

writer.close();

clientSocket.close();

serverSocket.close();

} catch (IOException e) {

e.printStackTrace();

}

}

}

**Client Side:**

import java.io.\*;

import java.net.\*;

public class Client {

public static void main(String[] args) {

final String SERVER\_IP = "127.0.0.1";

final int PORT = 12345;

try {

Socket socket = new Socket(SERVER\_IP, PORT);

// Say Hello

PrintWriter writer = new PrintWriter(socket.getOutputStream(), true);

BufferedReader reader = new BufferedReader(new InputStreamReader(socket.getInputStream()));

writer.println("Hello from client!");

String serverResponse = reader.readLine();

System.out.println("Server: " + serverResponse);

// File Transfer

OutputStream fileStream = socket.getOutputStream();

FileInputStream fileInput = new FileInputStream("file\_to\_send.txt");

byte[] buffer = new byte[1024];

int bytesRead;

while ((bytesRead = fileInput.read(buffer)) != -1) {

fileStream.write(buffer, 0, bytesRead);

}

System.out.println("File sent successfully.");

fileInput.close();

fileStream.close();

writer.close();

reader.close();

socket.close();

} catch (IOException e) {

e.printStackTrace();

}

}

}

Output:

