7.2) Design TCP client and server application to transfer file.

//FileServer.java

import java.io.\*;

import java.net.\*;

public class FileServer {

public static void main(String[] args) {

int port = 5000; // Port number

String filePath = "C:/Users/admin/Desktop/5j7/7.1CNS.docx"; // File to be sent

try (ServerSocket serverSocket = new ServerSocket(port)) {

System.out.println("Server is running and waiting for a connection...");

// Accept client connection

Socket clientSocket = serverSocket.accept();

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

// File transfer logic

try (FileInputStream fileInputStream = new FileInputStream(filePath);

BufferedInputStream bufferedInputStream = new BufferedInputStream(fileInputStream);

OutputStream outputStream = clientSocket.getOutputStream()) {

byte[] buffer = new byte[4096];

int bytesRead;

System.out.println("Sending file...");

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

outputStream.write(buffer, 0, bytesRead);

}

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

}

clientSocket.close();

} catch (IOException e) {

e.printStackTrace();

}

}

}

//FileClient.java

import java.io.\*;

import java.net.\*;

public class FileClient {

public static void main(String[] args) {

String serverAddress = "127.0.0.1"; // Server IP

int port = 5000; // Server port

String saveFilePath = "C:/Users/admin/Desktop/5j7/7.1CNS.docx"; // File path to save the received file

try (Socket socket = new Socket(serverAddress, port);

InputStream inputStream = socket.getInputStream();

FileOutputStream fileOutputStream = new FileOutputStream(saveFilePath);

BufferedOutputStream bufferedOutputStream = new BufferedOutputStream(fileOutputStream)) {

byte[] buffer = new byte[4096];

int bytesRead;

System.out.println("Receiving file...");

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

bufferedOutputStream.write(buffer, 0, bytesRead);

}

System.out.println("File received and saved to: " + saveFilePath);

} catch (IOException e) {

e.printStackTrace();

}

}

}

