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Problem Statements: Write a program using TCP socket for wired network for following a. Say Hello to Each other b. File transfer.

TCP Client code:

```
import java.io.*;

import java.net.*;

public class TCPClient6{

    public static void main(String[] args) {

        try (Socket clientSocket = new Socket("localhost", 3333)) {

            try (DataInputStream din = new DataInputStream(clientSocket.getInputStream());

                DataOutputStream dout = new DataOutputStream(clientSocket.getOutputStream())) {

                // Say "Hello" to the server

                dout.writeUTF("Hello, Server!");

                String serverResponse = din.readUTF();

                System.out.println("Received from server: " + serverResponse);

                // Send a file to the server

                String fileName = "sample.txt";

                File file = new File(fileName);

                dout.writeUTF(fileName);

                FileInputStream fis = new FileInputStream(file);

                byte[] buffer = new byte[1024];

                int bytesRead;

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

                    dout.write(buffer, 0, bytesRead);

                }

            }

        }

    }

}
```

```

        fis.close();

        System.out.println("File sent to server: " + fileName);
    }
} catch (IOException e) {
    e.printStackTrace();
}
}
}

```

TCP Server code:

```

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

public class TCPServer6 {
    public static void main(String[] args) {
        try (ServerSocket serverSocket = new ServerSocket(3333)) {
            System.out.println("Server is running and waiting for connections...");

            while (true) {
                Socket clientSocket = serverSocket.accept();
                System.out.println("Client connected from: " + clientSocket.getInetAddress());

                try (DataInputStream din = new DataInputStream(clientSocket.getInputStream());
                     DataOutputStream dout = new DataOutputStream(clientSocket.getOutputStream())) {

                    String clientMessage = din.readUTF();
                    System.out.println("Received from client: " + clientMessage);

                    dout.writeUTF("Server says: Hello!");
                }
            }
        }
    }
}

```

```

        // Receive a file from the client

        byte[] buffer = new byte[1024];

        int bytesRead;

        String fileName = din.readUTF();

        File file = new File(fileName);

        FileOutputStream fos = new FileOutputStream(file);

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

            fos.write(buffer, 0, bytesRead);

        }

        fos.close();

        System.out.println("File received from client: " + fileName);

    }

}

} catch (IOException e) {

    e.printStackTrace();

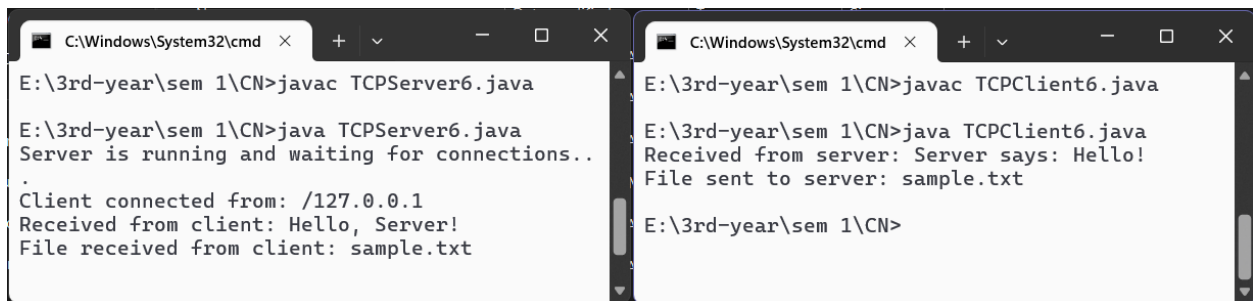
}

}

}

```

Output:



```

C:\Windows\System32\cmd
E:\3rd-year\sem 1\CN>javac TCPServer6.java
E:\3rd-year\sem 1\CN>java TCPServer6.java
Server is running and waiting for connections..
.
Client connected from: /127.0.0.1
Received from client: Hello, Server!
File received from client: sample.txt

C:\Windows\System32\cmd
E:\3rd-year\sem 1\CN>javac TCPClient6.java
E:\3rd-year\sem 1\CN>java TCPClient6.java
Received from server: Server says: Hello!
File sent to server: sample.txt
E:\3rd-year\sem 1\CN>

```