

Question 3A: TCP Server and Client

Server:

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

public class TCPServer {
    public static void main(String[] args) throws Exception {
        try (ServerSocket ss = new ServerSocket(5000)) {
            try (Socket s = ss.accept();
                BufferedReader in = new BufferedReader(new
InputStreamReader(s.getInputStream()));
                PrintWriter out = new PrintWriter(s.getOutputStream(), true)) {
                String msg = in.readLine();
                System.out.println("Received: " + msg);
                out.println(msg.toUpperCase());
            }
        }
    }
}
```

Client:

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

public class TCPClient {
    public static void main(String[] args) throws Exception {
        try (Socket s = new Socket("127.0.0.1", 5000);
            BufferedReader in = new BufferedReader(new InputStreamReader(s.getInputStream()));
            PrintWriter out = new PrintWriter(s.getOutputStream(), true)) {
            String msg = "Hello from ayush";
            out.println(msg);
            System.out.println("Server replied: " + in.readLine());
        }
    }
}
```

Sample Output:

Server: Received: Hello from ayush

Client: Server replied: HELLO FROM AYUSH