

```
//ChatServer
```

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

```
public class ChatServer {
    private static Set<ClientHandler> clientHandlers = new HashSet<>();
```

```
    public static void main(String[] args) throws IOException {
        ServerSocket serverSocket = new ServerSocket(1234);
        System.out.println("Server started on port 1234...");
```

```
        while (true) {
            Socket socket = serverSocket.accept();
            System.out.println("New client connected: " + socket.getInetAddress());
            ClientHandler clientHandler = new ClientHandler(socket);
            clientHandlers.add(clientHandler);
            new Thread(clientHandler).start();
        }
    }
}
```

```
    public static void broadcast(String message, ClientHandler sender) {
        for (ClientHandler client : clientHandlers) {
            if (client != sender) {
                client.sendMessage(message);
            }
        }
    }
}
```

```
    static class ClientHandler implements Runnable {
        private Socket socket;
        private PrintWriter out;
        private BufferedReader in;

        public ClientHandler(Socket socket) throws IOException {
            this.socket = socket;
            this.out = new PrintWriter(socket.getOutputStream(), true);
            this.in = new BufferedReader(new InputStreamReader(socket.getInputStream()));
        }
    }
```

```
    public void sendMessage(String message) {
        out.println(message);
    }
}
```

```
    public void run() {
        try {
            String message;
```

```

        while ((message = in.readLine()) != null) {
            System.out.println("Received: " + message);
            ChatServer.broadcast(message, this);
        }
    } catch (IOException e) {
        System.out.println("Connection lost: " + e.getMessage());
    } finally {
        try {
            socket.close();
            clientHandlers.remove(this);
        } catch (IOException e) {
            e.printStackTrace();
        }
    }
}
}
}
}

```

//ChatClient

```

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

```

```

public class ChatClient {
    public static void main(String[] args) {
        try {
            Socket socket = new Socket("localhost", 1234);
            System.out.println("Connected to chat server...");

            new Thread(new ReadThread(socket)).start();
            new Thread(new WriteThread(socket)).start();

        } catch (IOException e) {
            System.out.println("Error connecting to server: " + e.getMessage());
        }
    }
}

```

```

class ReadThread implements Runnable {
    private BufferedReader in;

    public ReadThread(Socket socket) throws IOException {
        in = new BufferedReader(new InputStreamReader(socket.getInputStream()));
    }
}

```

```

public void run() {
    String response;
    try {
        while ((response = in.readLine()) != null) {
            System.out.println("\nMessage: " + response);
        }
    } catch (IOException e) {
        System.out.println("Disconnected from server.");
    }
}
}

```

```

class WriteThread implements Runnable {
    private PrintWriter out;
    private BufferedReader console;

    public WriteThread(Socket socket) throws IOException {
        out = new PrintWriter(socket.getOutputStream(), true);
        console = new BufferedReader(new InputStreamReader(System.in));
    }

    public void run() {
        String message;
        try {
            while ((message = console.readLine()) != null) {
                out.println(message);
            }
        } catch (IOException e) {
            System.out.println("Error sending message.");
        }
    }
}

```