


```
        double num4 = input.nextDouble();

        out.writeObject(num4);

        double squareAns = (double) in.readObject();

        System.out.println("Data from Server: " + squareAns);
    }
    case 3 -> {
        int num5 = input.nextInt();

        int num6 = input.nextInt();

        out.writeObject(num5);

        out.writeObject(num6);

        int powerAns = (int) in.readObject();

        System.out.println("Data from Server: " + powerAns);
    }
    case 0 -> {
        out.writeObject(num1);

        System.out.println("Connection closing, Goodbye");

        client.close();
    }

    default -> throw new IllegalStateException("Unexpected value: " + num1);
}

}

}

catch(Exception ex){
    System.out.println("Error");
}

}

}
```

Server

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

public class server {

    public static void main(String[] args) {

        try {

            ServerSocket server = new ServerSocket(5000, 10); // create ServerSocket

            System.out.println("Server is Running on port 5000");

            Socket connection = server.accept();

            ObjectOutputStream out = new ObjectOutputStream(connection.getOutputStream());

            ObjectInputStream in = new ObjectInputStream(connection.getInputStream());

            String message;

            int num1;

            //noinspection InfiniteLoopStatement

            while (true) {

                num1 = (int) in.readObject();

                switch (num1) {

                    case 1 -> {

                        message = "Please enter 2 numbers";

                        out.writeObject(message);

                        int num2 = (int) in.readObject();

                        int num3 = (int) in.readObject();

                        int result;

                        result = num2 + num3;

                        out.writeObject(result);

                        break;

                    }

                    case 2 -> {

                        message = "Please enter 1 numbers";

                        out.writeObject(message);
```

```
        double num4 = (double) in.readObject();

        double squareAns = Math.sqrt(num4);

        out.writeObject(squareAns);

        break;
    }

    case 3 -> {

        message = "Please enter 2 numbers";

        out.writeObject(message);

        int num5 = (int) in.readObject();

        int num6 = (int) in.readObject();

        int powerAns = (int) Math.pow(num5, num6);

        out.writeObject(powerAns);

        break;
    }

    case 0 -> {

        out.writeChars("Connection closing, Goodbye");

        connection.close();

    }

    default -> throw new IllegalStateException("Unexpected value: " + num1);

}

}

}

catch (Exception ex) {

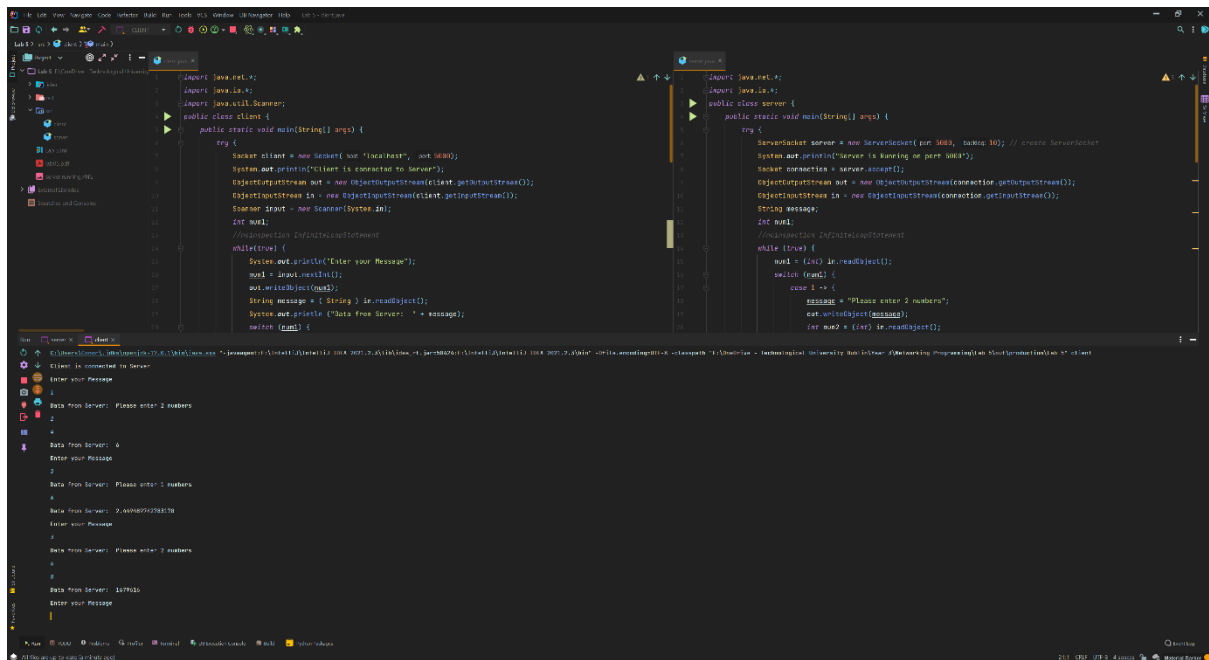
    System.out.println("Error");

}

}

}
```

Lab 5 C19704439 Conor Farrell



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

public class Client {

    public static void main(String[] args) {
        try {
            Socket client = new Socket("localhost", 5000);
            System.out.println("Client is connected to Server");
            ObjectOutputStream out = new ObjectOutputStream(client.getOutputStream());
            ObjectInputStream in = new ObjectInputStream(client.getInputStream());
            Scanner input = new Scanner(System.in);

            int num1;

            //Prompt user for first integer
            while (true) {
                System.out.println("Enter your Message");
                num1 = input.nextInt();
                out.writeObject(num1);
                out.flush();

                String message = (String) in.readObject();
                System.out.println("Data From Server: " + message);
                break;
            }
        } catch (IOException e) {
            e.printStackTrace();
        }
    }
}
```

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

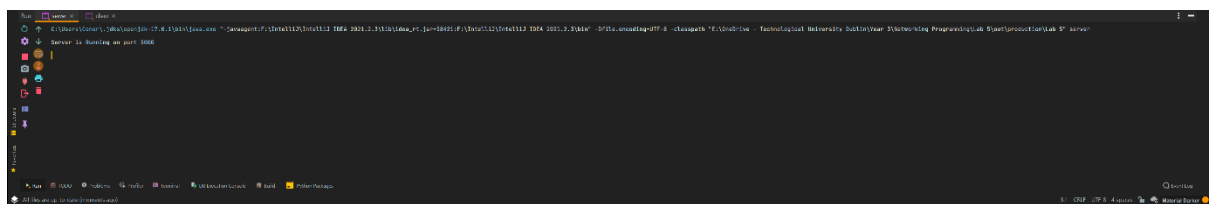
public class Server {

    public static void main(String[] args) {
        try {
            ServerSocket server = new ServerSocket(5000, 10); // create ServerSocket
            System.out.println("Server is running on port 5000");
            Socket connection = server.accept();
            ObjectOutputStream out = new ObjectOutputStream(connection.getOutputStream());
            ObjectInputStream in = new ObjectInputStream(connection.getInputStream());
            String message;

            int num1;

            //Prompt user for first integer
            while (true) {
                num1 = (int) in.readObject();
                switch (num1) {
                    case 1 -> {
                        message = "Please enter 2 numbers";
                        out.writeObject(message);
                        out.flush();
                        for num2 = (int) in.readObject();
                    }
                }
            }
        } catch (IOException e) {
            e.printStackTrace();
        }
    }
}
```

Client is connected to Server
Enter your Message
2
Data From Server: Please enter 2 numbers
4
Data From Server: 4
Enter your Message
2
Data From Server: Please enter 2 numbers
4
Data From Server: 2,40180772703176
Enter your Message
4
Data From Server: Please enter 2 numbers
0
Data From Server: 1477025
Enter your Message



```
Server is Running on port 5000
```