

In2cm Report

How to run the program

The program can be run by first compiling the server and client. Next you run the server and then you can use the client. The client format will be In2cmClient [inches] and In2cmClient2 [inches] [host name]. There is no difference between In2cmServer and In2cmServer2 so you can use either for testing the client. Make sure to close the server after you are done using it (All sockets except server socket are terminated in the program). Running the program in eclipse is shown in the screenshots section below.

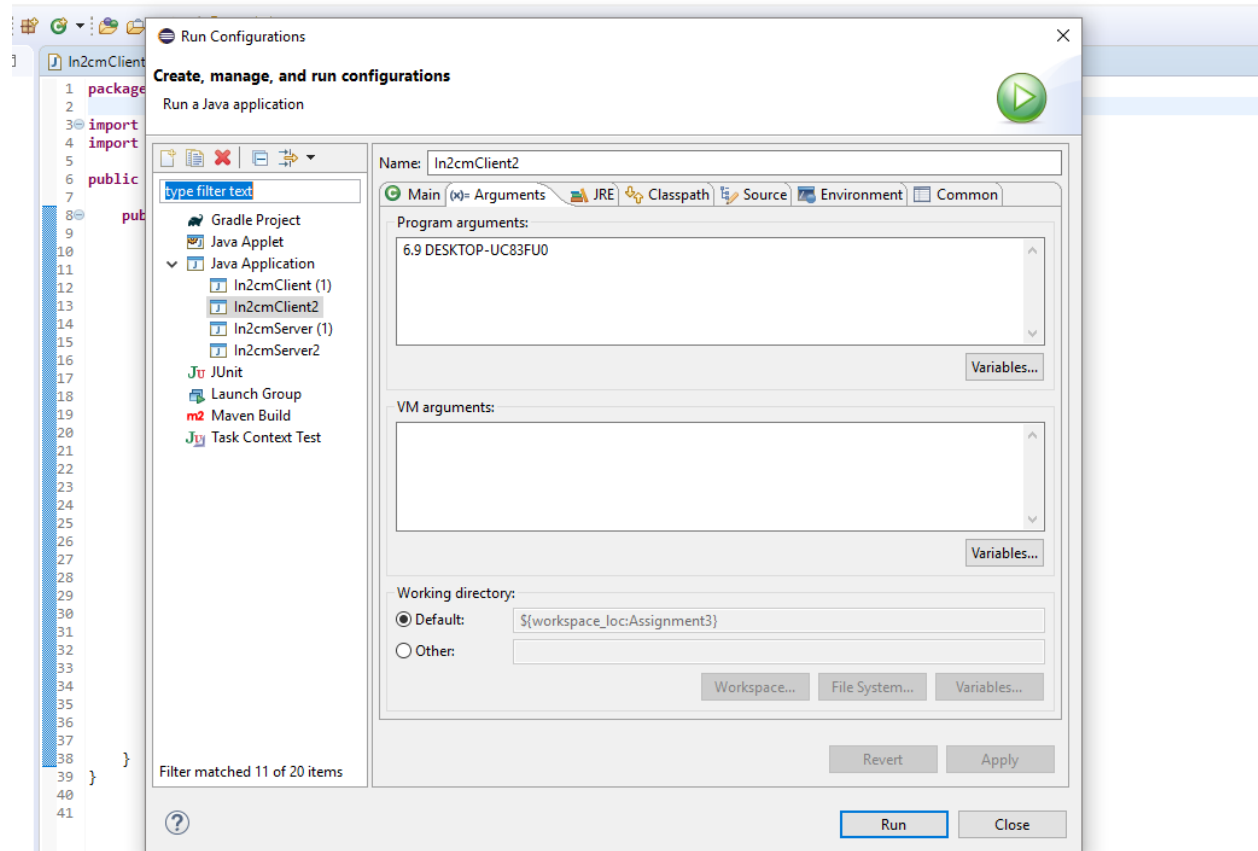
Where the basic code was obtained and what was modified?

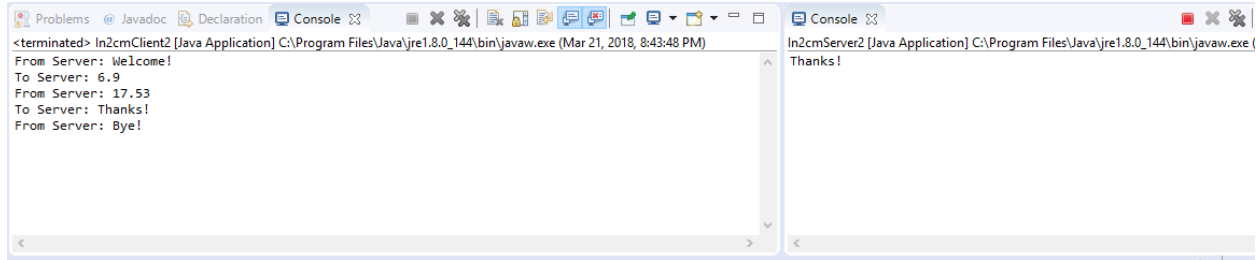
The basic code was obtained from the tutorial and was simplified (it doesn't use buffered readers, etc). Instead of using writeBytes and readLines I used writeUTF and readUTF since it was easier to use and readLines wouldn't work properly and as simply as readUTF did. DecimalFormat was used to send the answer from the server back to the client in the proper format (2 decimal places). Other minor improvements were added, and comments are provided in the program code.

What is the difference between In2cmClient and In2cmClient2?

In2cmClient2 has an extra argument which allows you to type in the host name of where the server is located (i.e on another computer). That is the only difference between the two programs.

Screenshots





Source Code

In2cmClient

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

public class In2cmClient {

    public static void main(String argv[]) throws Exception {
        String welcome, cm, goodbye;

        if (argv.length != 1) {
            System.out.println("Usage: In2cmClient [inches]");
        }

        Socket clientSocket = new Socket("host name", 24255); //change to the
        computers host name

        DataInputStream FromClient = new
        DataInputStream(clientSocket.getInputStream());
        DataOutputStream ToServer = new
        DataOutputStream(clientSocket.getOutputStream());

        welcome = FromClient.readUTF(); //reads welcome from server
        System.out.println("From Server: " + welcome);

        ToServer.writeUTF(argv[0]); //sends input to server
        System.out.println("To Server: " + argv[0]);

        cm = FromClient.readUTF(); //reads answer from server
        System.out.println("From Server: " + cm);

        ToServer.writeUTF("Thanks!"); //sends thanks to server
        System.out.println("To Server: Thanks!");

        goodbye = FromClient.readUTF(); //reads bye from server
        System.out.println("From Server: " + goodbye);

        FromClient.close(); //closes client
        ToServer.close(); //closes server
        clientSocket.close(); //closes client socket
    }
}
```

David Geller (214404255)

In2cmServer

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

public class In2cmServer {

    public static void main( String argv[] ) throws Exception{
        String inch, thanks;
        double cm;

        DecimalFormat df = new DecimalFormat("#.00"); //formats value to 2
decimal places

        ServerSocket serverSocket = new ServerSocket(24255);

        while(true) {

            Socket connectionSocket = serverSocket.accept();

            DataOutputStream ToClient = new
DataOutputStream(connectionSocket.getOutputStream());
            DataInputStream FromClient = new
DataInputStream(connectionSocket.getInputStream());

            ToClient.writeUTF("Welcome!"); //sends welcome to client

            inch = FromClient.readUTF(); //reads client input

            cm = Double.parseDouble(inch) * 2.54; //converts inches to cms

            ToClient.writeUTF(df.format(cm)); //sends answer to client

            thanks = FromClient.readUTF(); //reads thanks from client
            System.out.println(thanks);

            ToClient.writeUTF("Bye!"); //sends bye to client

            ToClient.close(); //closes client stream
            connectionSocket.close(); //closes connection socket to client
        }
        //IMPORTANT! make sure to close server after testing is done!
    }
}
```

David Geller (214404255)

In2cmClient2

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

public class In2cmClient2 {

    public static void main(String argv[]) throws Exception {
        String welcome, cm, goodbye;

        if (argv.length != 2) {
            System.out.println("Usage: In2cmClient [inches] [host name]");
        }

        Socket clientSocket = new Socket(argv[1], 24255);

        DataInputStream FromClient = new
DataInputStream(clientSocket.getInputStream());
        DataOutputStream ToServer = new
DataOutputStream(clientSocket.getOutputStream());

        welcome = FromClient.readUTF(); //reads welcome from server
        System.out.println("From Server: " + welcome);

        ToServer.writeUTF(argv[0]); //sends input to server
        System.out.println("To Server: " + argv[0]);

        cm = FromClient.readUTF(); //reads answer from server
        System.out.println("From Server: " + cm);

        ToServer.writeUTF("Thanks!"); //sends thanks to server
        System.out.println("To Server: Thanks!");

        goodbye = FromClient.readUTF(); //reads bye from server
        System.out.println("From Server: " + goodbye);

        FromClient.close(); //closes client
        ToServer.close(); //closes server
        clientSocket.close(); //closes client socket
    }
}
```

David Geller (214404255)

In2cmServer2

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

public class In2cmServer2 {

    public static void main( String argv[] ) throws Exception{
        String inch, thanks;
        double cm;

        DecimalFormat df = new DecimalFormat("#.00"); //formats value to 2
decimal places

        ServerSocket serverSocket = new ServerSocket(24255);

        while(true) {

            Socket connectionSocket = serverSocket.accept();

            DataOutputStream ToClient = new
DataOutputStream(connectionSocket.getOutputStream());
            DataInputStream FromClient = new
DataInputStream(connectionSocket.getInputStream());

            ToClient.writeUTF("Welcome!"); //sends welcome to client

            inch = FromClient.readUTF(); //reads client input

            cm = Double.parseDouble(inch) * 2.54; //converts inches to cms

            ToClient.writeUTF(df.format(cm)); //sends answer to client

            thanks = FromClient.readUTF(); //reads thanks from client
            System.out.println(thanks);

            ToClient.writeUTF("Bye!"); //sends bye to client

            ToClient.close(); //closes client stream
            connectionSocket.close(); //closes connection socket to client
        }
        //IMPORTANT! make sure to close server after testing is done!
    }
}
```