U18CO018
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Sub: CN
Lab: Assignment 3
Topic : Socket Programming

- Perform Simple Socket Programming

Java Socket programming is used for communication between the applications running on different JRE(Client and Server).

Socket and ServerSocket classes are used for connection-oriented socket programming.

Client in socket programming must know two information:

1. IP Address of Server
2. Port number

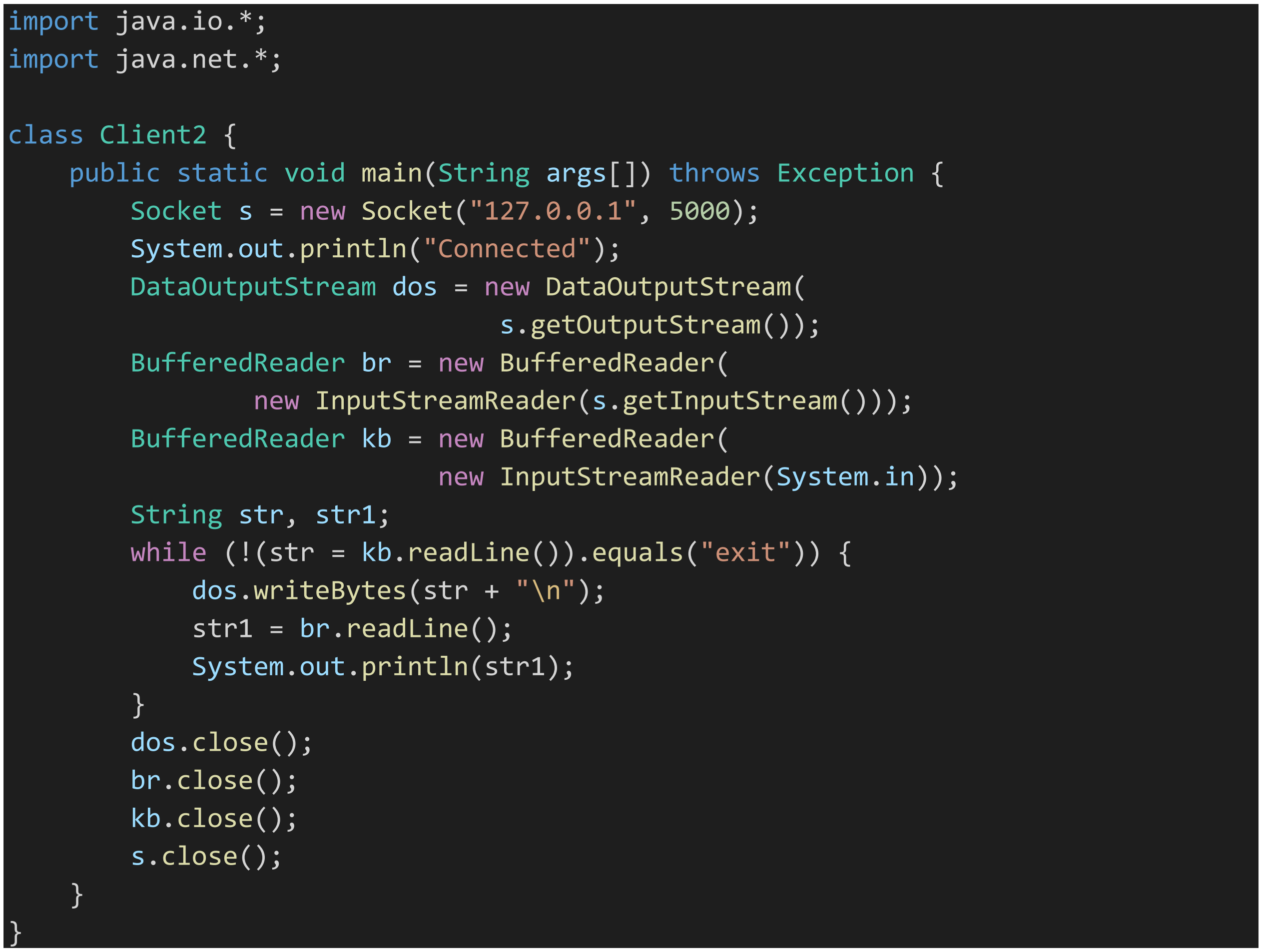
Example:

Server2.java

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

class Server2 {
    public static void main(String args[]) throws Exception {
        ServerSocket ss = new ServerSocket(5000);
        System.out.println("Server started");
        System.out.println("Waiting for a client...");
        Socket s = ss.accept();
        System.out.println("Connection established");
        PrintStream ps = new PrintStream(s.getOutputStream());
        BufferedReader br = new BufferedReader(
                        new InputStreamReader(s.getInputStream()));
        BufferedReader kb = new BufferedReader(
                            new InputStreamReader(System.in));
        while (true) {
            String str, str1;
            while ((str = br.readLine()) != null) {
                System.out.println(str);
                str1 = kb.readLine();
                ps.println(str1);
            }
            ps.close();
            br.close();
            kb.close();
            ss.close();
            s.close();
            System.exit(0);
        }
    }
}
```

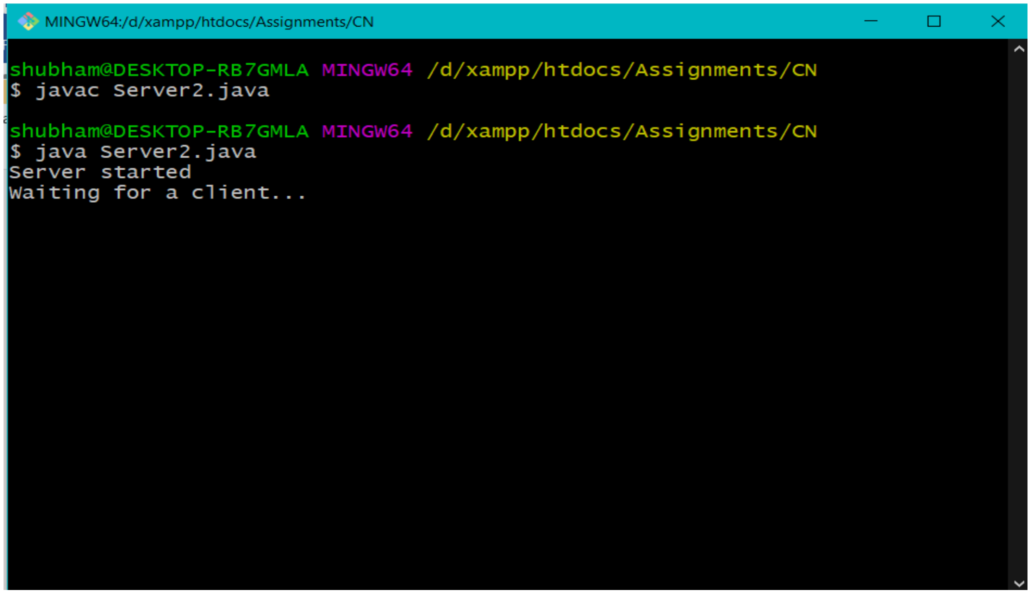
Client2.java



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

class Client2 {
    public static void main(String args[]) throws Exception {
        Socket s = new Socket("127.0.0.1", 5000);
        System.out.println("Connected");
        DataOutputStream dos = new DataOutputStream(
                                s.getOutputStream());
        BufferedReader br = new BufferedReader(
                new InputStreamReader(s.getInputStream()));
        BufferedReader kb = new BufferedReader(
                            new InputStreamReader(System.in));
        String str, str1;
        while (!(str = kb.readLine()).equals("exit")) {
            dos.writeBytes(str + "\n");
            str1 = br.readLine();
            System.out.println(str1);
        }
        dos.close();
        br.close();
        kb.close();
        s.close();
    }
}
```

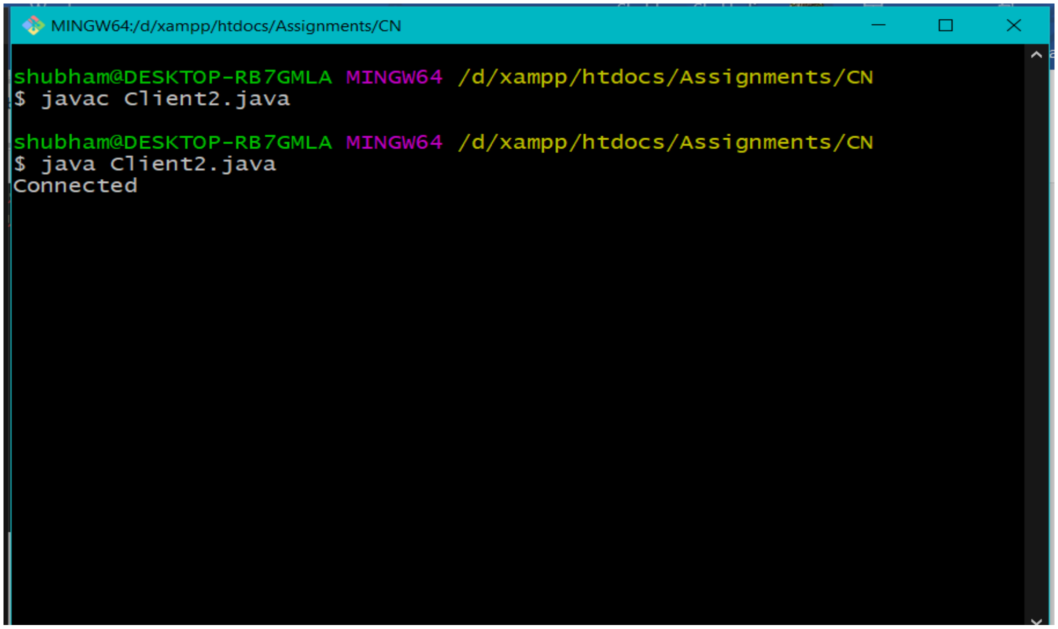
While Compiling Server2.java and at a run time It will show.



```
shubham@DESKTOP-RB7GMLA MINGW64 /d/xampp/htdocs/Assignments/CN
$ javac Server2.java

shubham@DESKTOP-RB7GMLA MINGW64 /d/xampp/htdocs/Assignments/CN
$ java Server2.java
Server started
Waiting for a client...
```

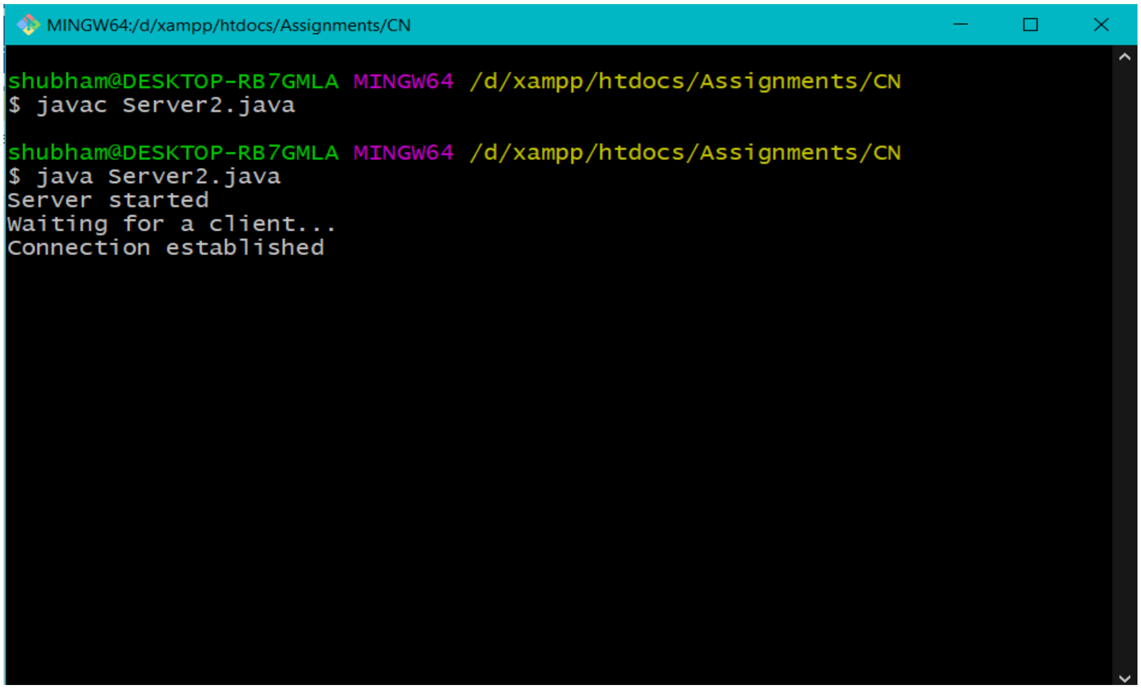
While Compiling Client2.java and at a run time It will show.



```
shubham@DESKTOP-RB7GMLA MINGW64 /d/xampp/htdocs/Assignments/CN
$ javac Client2.java

shubham@DESKTOP-RB7GMLA MINGW64 /d/xampp/htdocs/Assignments/CN
$ java Client2.java
Connected
```

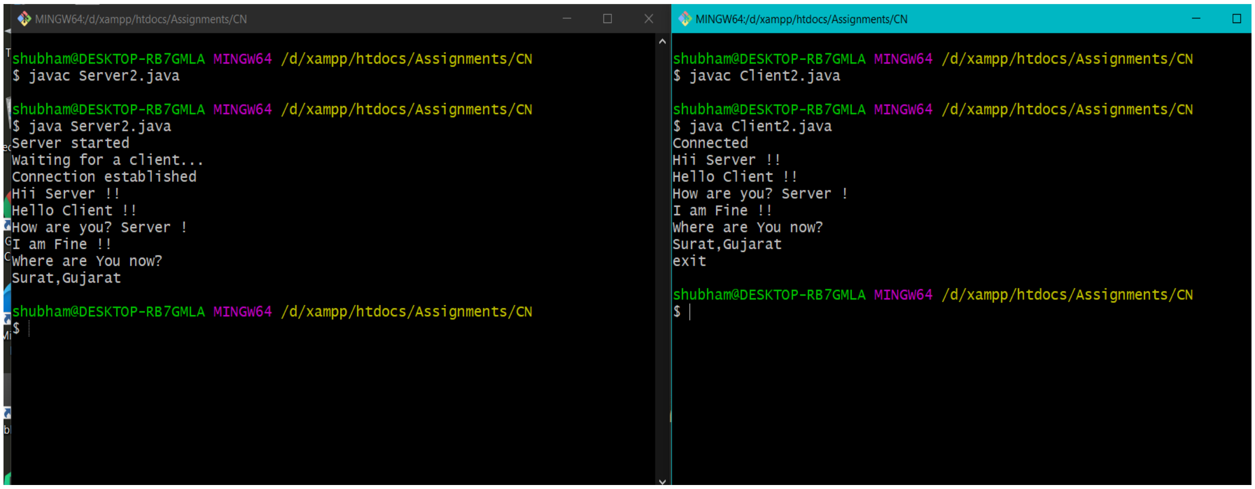
At a Time of Connection Sever Also Show Us Client Connected Message



```
shubham@DESKTOP-RB7GMLA MINGW64 /d/xampp/htdocs/Assignments/CN
$ javac Server2.java

shubham@DESKTOP-RB7GMLA MINGW64 /d/xampp/htdocs/Assignments/CN
$ java Server2.java
Server started
Waiting for a client...
Connection established
```

And Whatever message will send through Client then Server will receive and Show the message and also when Server send message Client will receive and show the message.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MINGW64:/d/xampp/htdocs/Assignments/CN

```
shubham@DESKTOP-RB7GMLA MINGW64 /d/xampp/htdocs/Assignments/CN
$ javac Server2.java

shubham@DESKTOP-RB7GMLA MINGW64 /d/xampp/htdocs/Assignments/CN
$ java Server2.java
Server started
Waiting for a client...
Connection established
Hii Server !!
Hello Client !!
How are you? Server !
I am Fine !!
Where are You now?
Surat,Gujarat

shubham@DESKTOP-RB7GMLA MINGW64 /d/xampp/htdocs/Assignments/CN
$ 
```

```
shubham@DESKTOP-RB7GMLA MINGW64 /d/xampp/htdocs/Assignments/CN
$ javac Client2.java

shubham@DESKTOP-RB7GMLA MINGW64 /d/xampp/htdocs/Assignments/CN
$ java Client2.java
Connected
Hii Server !!
Hello Client !!
How are you? Server !
I am Fine !!
Where are You now?
Surat,Gujarat
exit

shubham@DESKTOP-RB7GMLA MINGW64 /d/xampp/htdocs/Assignments/CN
$ 
```

And “exit” Will Closing Connection Message at Server Side and Client Side.