Name: Abhay Sharma
ID: 20102065
Div- C/28
Sub: Distributed Computing

Experiment 3

Code:
IPCClient.java:

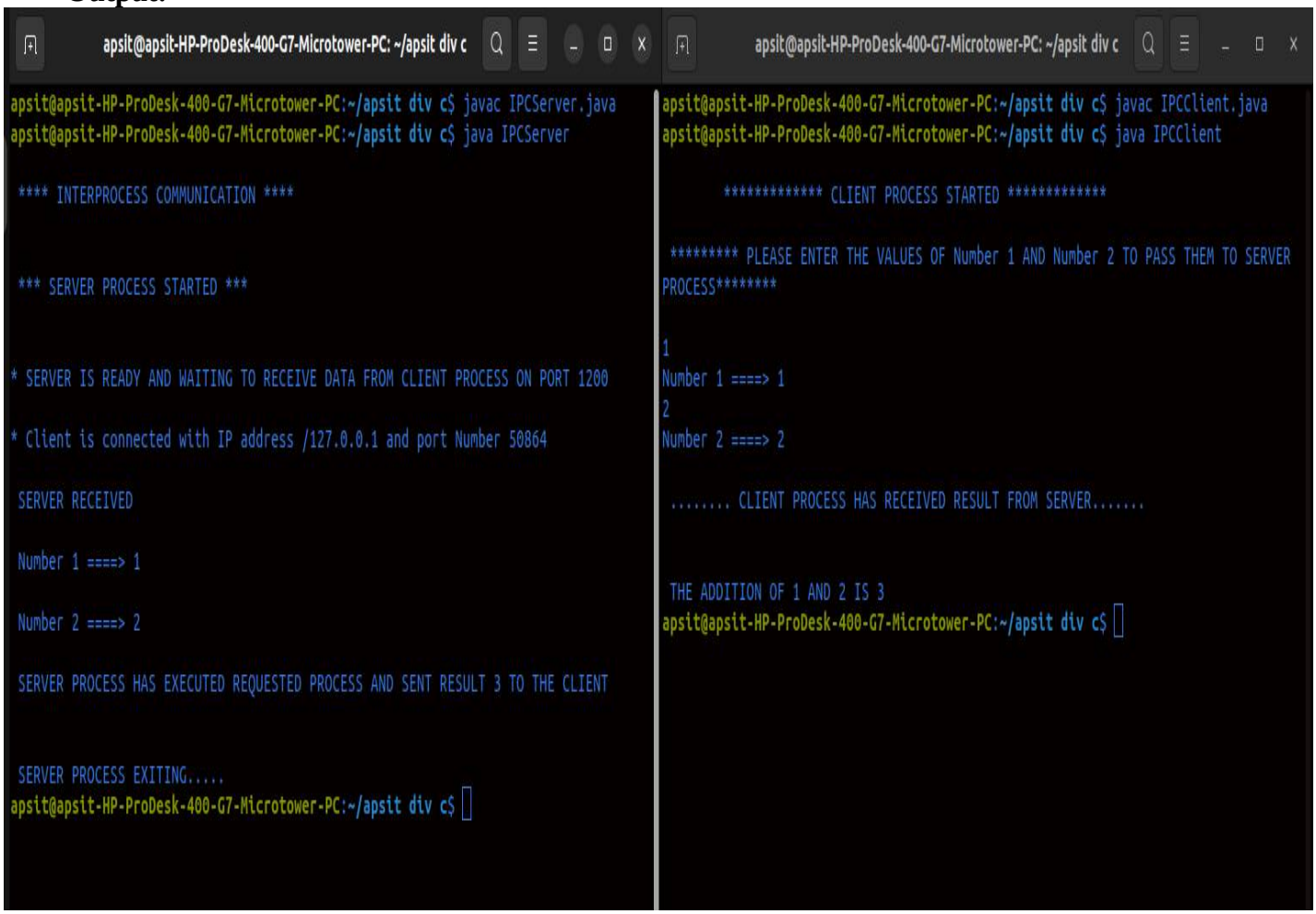
```
import java.net.*;
import java.io.*;

public class IPCClient {
   public static void main(String args[]) {
      try (Socket s = new Socket("localhost", 1200);
          DataOutputStream dos = new DataOutputStream(s.getOutputStream());
          DataInputStream dis = new DataInputStream(s.getInputStream());
          InputStreamReader isr = new InputStreamReader(System.in)) {

         System.out.println("\n \t********** CLIENT PROCESS STARTED **********");
         System.out.println("\n ********* PLEASE ENTER THE VALUES OF Number 1 AND
Number 2 TO PASS THEM TO SERVER PROCESS******** \n");

         BufferedReader br = new BufferedReader(isr);

         int a = Integer.parseInt(br.readLine());
         System.out.println("Number 1 ====> " + a);
         dos.writeInt(a);

         int b = Integer.parseInt(br.readLine());
         System.out.println("Number 2 ====> " + b);
         dos.writeInt(b);

         int result = dis.readInt();
         System.out.println("\n ..... CLIENT PROCESS HAS RECEIVED RESULT FROM
SERVER.....\n");
         System.out.println("\n THE ADDITION OF " + a + " AND " + b + " IS " + result);

      } catch (Exception e) {
         System.out.println("Exception is " + e);
      }
   }
}
```

IPCServer.java:

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

public class IPCServer {
```

```
   public static void main(String args[]) {
      System.out.println("\n **** INTERPROCESS COMMUNICATION ****\n");
      System.out.println("\n *** SERVER PROCESS STARTED ***\n");
      System.out.println("\n* SERVER IS READY AND WAITING TO RECEIVE DATA FROM
CLIENT PROCESS ON PORT 1200");

      try (ServerSocket ss = new ServerSocket(1200)) {
         Socket clientSocket = ss.accept();
         System.out.println("\n* Client is connected with IP address " +
clientSocket.getInetAddress() +
               " and port Number " + clientSocket.getPort());

         // Create streams after accepting the connection
         DataOutputStream dos = new DataOutputStream(clientSocket.getOutputStream());
         DataInputStream dis = new DataInputStream(clientSocket.getInputStream());

         int a = dis.readInt();
         System.out.println("\n SERVER RECEIVED");
         System.out.println("\n Number 1 ====> " + a);

         int b = dis.readInt();
         System.out.println("\n Number 2 ====> " + b);

         int c = a + b;
         dos.writeInt(c);
         System.out.println("\n SERVER PROCESS HAS EXECUTED REQUESTED PROCESS
AND SENT RESULT " + c +
               " TO THE CLIENT \n");

         clientSocket.close();
         System.out.println("\n SERVER PROCESS EXITING.....");
      } catch (Exception e) {
         System.out.println("Exception: " + e);
      }
   }
}
```

Output:


apsit@apsit-HP-ProDesk-400-G7-Microtower-PC: ~/apsit div c
apsit@apsit-HP-ProDesk-400-G7-Microtower-PC:~/apsit div c$ javac IPCServer.java
apsit@apsit-HP-ProDesk-400-G7-Microtower-PC:~/apsit div c$ java IPCServer
**** INTERPROCESS COMMUNICATION ****
*** SERVER PROCESS STARTED ***
* SERVER IS READY AND WAITING TO RECEIVE DATA FROM CLIENT PROCESS ON PORT 1200
* Client is connected with IP address /127.0.0.1 and port Number 50864
SERVER RECEIVED
Number 1 ====> 1
Number 2 ====> 2
SERVER PROCESS HAS EXECUTED REQUESTED PROCESS AND SENT RESULT 3 TO THE CLIENT
SERVER PROCESS EXITING.....
apsit@apsit-HP-ProDesk-400-G7-Microtower-PC:~/apsit div c$
apsit@apsit-HP-ProDesk-400-G7-Microtower-PC: ~/apsit div c
apsit@apsit-HP-ProDesk-400-G7-Microtower-PC:~/apsit div c$ javac IPCClient.java
apsit@apsit-HP-ProDesk-400-G7-Microtower-PC:~/apsit div c$ java IPCClient
********** CLIENT PROCESS STARTED **********
******** PLEASE ENTER THE VALUES OF Number 1 AND Number 2 TO PASS THEM TO SERVER PROCESS********
1
Number 1 ====> 1
2
Number 2 ====> 2
.... CLIENT PROCESS HAS RECEIVED RESULT FROM SERVER.......
THE ADDITION OF 1 AND 2 IS 3
apsit@apsit-HP-ProDesk-400-G7-Microtower-PC:~/apsit div c$