INSTITUTE OF ENGINEERING & MANAGEMENT

IEM
Institute of Engineering & Management

ME OF THE STUDENT : Abhishek Anand

MESTER : 6th

LL NO. : 57

SIGNMENT OF
EPARTMENT : Computer Networks Lab

ATE OF EXPERIMENT /
ROJECT : 28/4/2022

ATE OF SUBMISSION :
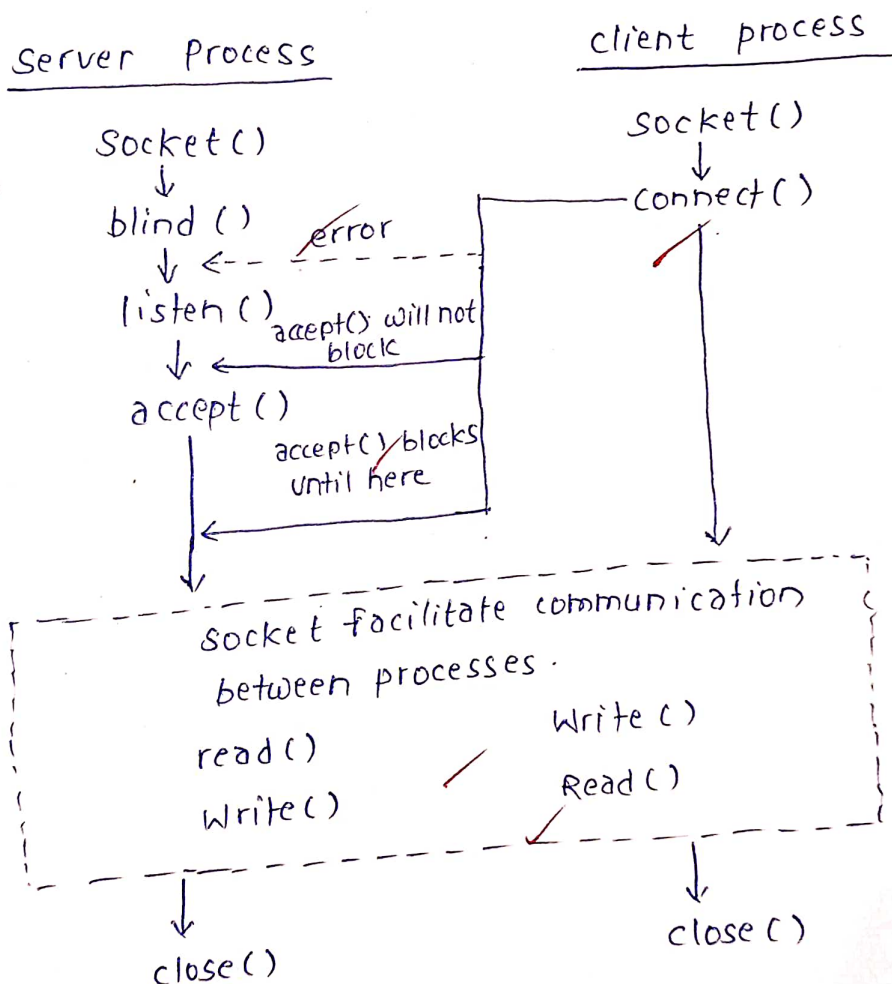
TITLE : Socket program to get the current date & time

OBJECT : Socket program to get the current date & time from the Server.

Objective: To write a socket program to get the current date & time from the server.

Introduction:

Socket programming is a way of connecting two nodes on a network to communicate with each other. One socket (node) listens on a particular port at an IP, while others socket reaches out to the other to form a connection. Server forms the listener socket while client reaches out to the server.

State diagram for server & client.

Server Process

```
        Socket()
           ↓
        blind ()      error
           ↓  <-- -------
        listen ()   accept() will not
           ↓           block
        accept ()
           ↓       accept() blocks
                   until here
           ↓
```

client process

```
        Socket ()
           ↓
        connect()

```

Socket facilitate communication between processes.

```
    read ()              Write ()
    Write()              Read ()
       ↓                    ↓
    close()              close ()
```

Code :

Data client

```
import java.io.* ;
import java.net.* ;
class DateClient {
    public static void main (String args[]) throws Exception
    {
        Socket soc = new Socket ( InetAddress.getLocalHost(),5217);
        BufferedReader in = new BufferedReader (new InputStreamReader
                            (soc.getInputStream() ));

        System.out.println ( in.readLine());
    }
}
```

Data Server :

```
import java.net.* ;
import java.io.* ;
import java.util.* ;
class DateServer {
    public static void main (String args[]) throws Exception{
        ServerSocket s = new ServerSocket (5217) ;
        while (true) {
            System.out.println ("Waiting for connection...");
            Socket soc = s.accept();
            DataOutputStream out = new DataOutputStream
                            (soc.getOutputStream());

            Out.writeBytes ("Server Date : "+ (new.Date()
                            .toString()+ "\n");
            out.close();
            soc.close();
        }
    }
}
```

Result:

- First compile the client code on console and then compile the server code on different console.

- Run the Server code, after that client code. Now the client console shows the time and date of the server machine.

Server Date: Thu Apr 28 11:35:42 IST 2022

Discussion:

Socket programming shows how to use Socket API's to established communication links between remote and local processes. Typically it is an inter process communication technique

    (i)   pipes
    (ii)   Message queues
    (iii)   Shared Memory.

After creation of the socket, bind function binds the socket to the addresses and port number. We bind the server with the localhost.

So, Finally after establishing the connection We got the Server date.

28/04