EX.NO:4:SIMULATION OF DNS USING UDP SOCKETS-MUTHUKUMAR-9006

PROGRAM:

UDP DNS SERVER:

```
import java.io.*;

import java.net.*;

public class dnss {

    private static int indexOf(String[] array, String str) {

        str = str.trim();

        for (int i = 0; i < array.length; i++) {

            if (array[i].equals(str))

                return I;     }

        return -1;    }

    public static void main(String arg[]) throws IOException {

        String[] hosts = {

    "yahoo.com", "gmail.com", "cricinfo.com", "facebook.com",

    "twitter.com", "linkedin.com", "github.com", "wikipedia.org"

};

String[] ip = {

    "68.180.206.184", "209.85.148.19", "80.168.92.140",

    "69.63.189.16", "104.244.42.1", "108.174.10.10",

    "140.82.112.4", "208.80.154.224"

};

        System.out.println("Press Ctrl + C to Quit");

        DatagramSocket serversocket = new DatagramSocket(1362);

        while (true) {

            byte[] senddata = new byte[1021];

            byte[] receivedata = new byte[1021];

            DatagramPacket recvpack = new DatagramPacket(receivedata, receivedata.length);

            serversocket.receive(recvpack);
            String sen = new String(recvpack.getData(), 0, recvpack.getLength()).trim(); // trim the string
            InetAddress ipaddress = recvpack.getAddress();
            int port = recvpack.getPort();
            String capsent;
            System.out.println("Request for host " + sen);
            if (indexOf(hosts, sen) != -1){
                capsent = ip[indexOf(hosts, sen)];}
            else{
                capsent = "Host Not Found";
            senddata = capsent.getBytes();
            DatagramPacket pack = new DatagramPacket(senddata, senddata.length, ipaddress, port);
            serversocket.send(pack);}
        }   }
}
```

UDP DNS CLIENT:

```
import java.io.*;
import java.net.*;
public class dnsc {
    public static void main(String args[]) throws IOException {
        BufferedReader br = new BufferedReader(new InputStreamReader(System.in));
        DatagramSocket clientsocket = new DatagramSocket();
        InetAddress ipaddress;
        if (args.length == 0) {
            ipaddress = InetAddress.getLocalHost();
        } else {
            ipaddress = InetAddress.getByName(args[0]);   }
        byte[] senddata;
        byte[] receivedata = new byte[1024];
        int portaddr = 1362;
        System.out.print("Enter the hostname: ");
        String sentence = br.readLine().trim();
        senddata = sentence.getBytes();
        DatagramPacket pack = new DatagramPacket(senddata, senddata.length, ipaddress, portaddr);
        clientsocket.send(pack);
        DatagramPacket recvpack = new DatagramPacket(receivedata, receivedata.length);
        clientsocket.receive(recvpack);
        String modified = new String(recvpack.getData(), 0, recvpack.getLength()).trim();
        System.out.println("IP Address: " + modified);
        clientsocket.close();  }
}
```

OUTPUT:

UDP DNS SERVER:

```
E:\JAVA>javac dnss.java
E:\JAVA>java dnss
Press Ctrl + C to Quit
Request for host gmail.com
Request for host linkedin.com
Request for host github.com
Request for host wikipedia.org
^C
```

UDP DNS CLIENT:

```
E:\JAVA>javac dnsc.java
E:\JAVA>java dnsc
Enter the hostname: gmail.com
IP Address: 209.85.148.19
E:\JAVA>java dnsc
Enter the hostname: linkedin.com
IP Address: 108.174.10.10
```

```
E:\JAVA>java dnsc
Enter the hostname: github.com
IP Address: 140.82.112.4
E:\JAVA>java dnsc
Enter the hostname: wikipedia.org
IP Address: 208.80.154.224
```