Lab-7

1.Implement RARP

RARP:

Reverse Address Resolution Protocol (RARP) is a protocol a physical machine in a local area network (LAN) can use to request its IP address. It does this by sending the device's physical address to a specialized RARP server that is on the same LAN and is actively listening for RARP requests.

Program:

Program which sends requests.

Client.java:

```
import java.io.*;
import java.net.*;
import java.util.*;
class Client
{
   public static void main(String args[])
   {
      try
      {
         DatagramSocket client=new DatagramSocket();
         InetAddress addr=InetAddress.getByName("127.0.0.1");
         byte[] sendbyte=new byte[1024];
         byte[] receivebyte=new byte[1024];
         BufferedReader in=new BufferedReader(new InputStreamReader(System.in));
         System.out.println("Enter the Physical address (MAC):");
         String str=in.readLine(); sendbyte=str.getBytes();
         DatagramPacket sender=new DatagramPacket(sendbyte,sendbyte.length,addr,1309);
         client.send(sender);
         DatagramPacket receiver=new DatagramPacket(receivebyte,receivebyte.length);
         client.receive(receiver);
         String s=new String(receiver.getData());
         System.out.println("The Logical Address is(IP): "+s.trim());
         client.close();
      }
      catch(Exception e)
```

```
        {
            System.out.println(e);
        }
    }
}
```

Program to send IP address based on request:

Server.java:

```
import java.io.*;
import java.net.*;
import java.util.*;
class Serverrarp
{
    public static void main(String args[])
    {
        try
        {
            DatagramSocket server=new DatagramSocket(1309);
            while(true)
            {
                byte[] sendbyte=new byte[1024];
                byte[] receivebyte=new byte[1024];
                DatagramPacket receiver=new DatagramPacket(receivebyte,receivebyte.length);
                server.receive(receiver);
                String str=new String(receiver.getData());
                String s=str.trim();
                InetAddress addr=receiver.getAddress();
                int port=receiver.getPort();
                String ip[]={"165.165.80.80","165.165.79.1"};
                String mac[]={"6A:08:AA:C2","8A:BC:E3:FA"};
                for(int i=0;i<ip.length;i++)
                {
                    if(s.equals(mac[i]))
                    {
                        sendbyte=ip[i].getBytes();
                        DatagramPacket sender=new
DatagramPacket(sendbyte,sendbyte.length,addr,port);
                        server.send(sender);
                        break;
                    }
                }
                break;
```

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

Output:

```
Enter the Physical address (MAC):
6A:08:AA:C2
The Logical Address is(IP): 165.165.80.80
```