**Write a program for DNS lookup. Given an IP address as input, it should return URL and viceversa.**

import javax.naming.directory.Attributes;

import javax.naming.directory.InitialDirContext;

import javax.naming.NamingEnumeration;

import javax.naming.NamingException;

import java.net.InetAddress;

import java.net.UnknownHostException;

public class DNSLookup

{

public static void main(String args[])

{

// explain what program does and how to use it

if (args.length != 1)

{

System.err.println("Print out DNS Record for an Internet Address");

System.err.println("USAGE: java DNSLookup domainName|

domainAddress");

System.exit(-1);

}

try

{

InetAddress inetAddress;

// if first character is a digit then assume is an address

if (Character.isDigit(args[0].charAt(0)))

{ // convert address from string representation to byte array

byte[] b = new byte[4];

String[] bytes = args[0].split("[.]");

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

{

b[i] = new Integer(bytes[i]).byteValue();

}

// get Internet Address of this host address

inetAddress = InetAddress.getByAddress(b);

}

else

{ // get Internet Address of this host name

inetAddress = InetAddress.getByName(args[0]);

}

// show the Internet Address as name/address

System.out.println(inetAddress.getHostName() + "/" +

inetAddress.getHostAddress());

// get the default initial Directory Context

InitialDirContext iDirC = new InitialDirContext();

// get the DNS records for inetAddress

Attributes attributes = iDirC.getAttributes("dns:/" +

inetAddress.getHostName());

// get an enumeration of the attributes and print them out

NamingEnumeration attributeEnumeration = attributes.getAll();

System.out.println("-- DNS INFORMATION --");

while (attributeEnumeration.hasMore())

{

System.out.println("" + attributeEnumeration.next());

}

attributeEnumeration.close();

}

catch (UnknownHostException exception)

{

System.err.println("ERROR: No Internet Address for '" + args[0] +

"'");

}

catch (NamingException exception)

{

System.err.println("ERROR: No DNS record for '" + args[0] + "'");

}

}

}

/\*output:

pvg@pvg:~$ javac DNSLookup.java

pvg@pvg:~$ java DNSLookup google.com

google.com/172.217.26.238

-- DNS INFORMATION --

AAAA: 2404:6800:4009:805::200e

TXT: "v=spf1 include:\_spf.google.com ~all"

A: 172.217.26.238

NS: ns1.google.com., ns2.google.com., ns3.google.com., ns4.google.com.

MX: 20 alt1.aspmx.l.google.com., 30 alt2.aspmx.l.google.com., 40

alt3.aspmx.l.google.com., 50 alt4.aspmx.l.google.com., 10 aspmx.l.google.com.

pvg@pvg:~$

pvg@pvg:~$ java DNSLookup gmail.com

gmail.com/216.58.199.133

-- DNS INFORMATION --

AAAA: 2404:6800:4009:805::2005

TXT: "v=spf1 redirect=\_spf.google.com"

A: 172.217.26.229

NS: ns2.google.com., ns1.google.com., ns4.google.com., ns3.google.com.

SOA: ns4.google.com. dns-admin.google.com. 167076726 900 900 1800 60

MX: 40 alt4.gmail-smtp-in.l.google.com., 10 alt1.gmail-smtp-in.l.google.com., 20

alt2.gmail-smtp-in.l.google.com., 5 gmail-smtp-in.l.google.com., 30 alt3.gmailsmtp-in.l.google.com.

pvg@pvg:~$

pvg@pvg:~$ java DNSLookup yahoo.com

yahoo.com/98.138.253.109

-- DNS INFORMATION --

AAAA: 2001:4998:c:a06::2:4008, 2001:4998:58:c02::a9, 2001:4998:44:204::a7

TXT: "v=spf1 redirect=\_spf.mail.yahoo.com"

A: 206.190.36.45, 98.139.180.149, 98.138.253.109

NS: ns1.yahoo.com., ns2.yahoo.com., ns5.yahoo.com., ns3.yahoo.com.,

ns4.yahoo.com.

SOA: ns1.yahoo.com. hostmaster.yahoo-inc.com. 2017083125 3600 300 1814400 600

MX: 1 mta7.am0.yahoodns.net., 1 mta6.am0.yahoodns.net., 1 mta5.am0.yahoodns.net.

pvg@pvg:~$

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