Assignment 2:

1. Given the address, find the hostname using java programming language.
2. Find the IP address of the local machine using java programming language.
3. Determine whether an IP address is v4 or v6 using java programming language.

1.

import java.net.InetAddress;

public class Hostname {

public static void printHostname(String address) {

try {

InetAddress inetAddress = InetAddress.getByName(address);

String hostname = inetAddress.getHostName();

System.out.println(hostname);

} catch (Exception e) {

System.err.println("Error: unable to resolve hostname for address " + address);

}

}

}

2.

import java.net.InetAddress;

public class IpFinder {

public static void printIpAddress() {

try {

InetAddress inetAddress = InetAddress.getLocalHost();

String ipAddress = inetAddress.getHostAddress();

System.out.println(ipAddress);

} catch (Exception e) {

System.err.println("Error: unable to resolve IP address of local machine");

}

}

}

3.

import java.net.InetAddress;

public class IpVersionFinder {

public static void printIpVersion(String address) {

try {

InetAddress inetAddress = InetAddress.getByName(address);

byte[] addressBytes = inetAddress.getAddress();

if (addressBytes.length == 4) {

// Address is version 4

System.out.println("IP address is version 4");

} else if (addressBytes.length == 16) {

// Address is version 6

System.out.println("IP address is version 6");

} else {

System.out.println("Invalid IP address");

}

} catch (Exception e) {

System.err.println("Error: unable to determine IP address version for address " + address);

}

}

}