import java.net.InetAddress;

import java.net.UnknownHostException;

import java.util.Scanner;

public class Assignment12 {

public static void main(String[] args) {

Scanner scanner = new Scanner(System.in);

while (true) {

System.out.println("Enter '1' to lookup hostname by IP, '2' to lookup IP by hostname, or 'exit' to quit: ");

String choice = scanner.nextLine().trim();

if (choice.equalsIgnoreCase("exit")) {

System.out.println("Exiting the program.");

break;

}

System.out.print("Enter the " + (choice.equals("1") ? "IP address" : choice.equals("2") ? "hostname" : "valid choice") + ": ");

String input = scanner.nextLine().trim();

if (choice.equals("1")) {

lookup(input, true); // true indicates lookup by IP

} else if (choice.equals("2")) {

lookup(input, false); // false indicates lookup by hostname

} else {

System.out.println("Invalid choice. Please enter '1' or '2'.");

}

}

scanner.close();

}

private static void lookup(String input, boolean isIp) {

try {

InetAddress inetAddress = InetAddress.getByName(input);

String result = isIp ? inetAddress.getHostName() : inetAddress.getHostAddress();

System.out.println("The " + (isIp ? "hostname" : "IP address") + " for " + input + " is: " + result);

} catch (UnknownHostException e) {

System.out.println((isIp ? "Hostname" : "IP address") + " could not be found for the given input.");

}

}

}