Write your name below and indicate your role,	
Project Manager (PM), Recorder (R)	
Name	Role
Name	Role

# **Routers and Redundancy**

Your Tasks (Mark these off as you go)
□ Reflect on the Mail Delivery Process
<ul> <li>Explore the Internet Simulator</li> </ul>
□ Read Router Traffic
<ul> <li>Have Ms. Pluska check off Read Router Traffic</li> </ul>
□ Play a Round of Battleship
<ul> <li>Have Ms. Pluska check off Play a Round of Battleship</li> </ul>
□ Reflect
☐ Define key Vocabulary
<ul> <li>Receive credit for the group portion of this lab</li> </ul>

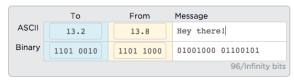
## Reflect on the Mail Delivery Process

lmagine you were going to send a letter to a friend living in another state. List the steps you imagine your letter would have to take through the different parts of the postal system. Don't worry if you're not sure about your answers, just make an educated guess. Write you answer it the box below,

## □ Explore the Internet Simulator

Navigate to http://Code.org lesson 10 stage 2

Explore the new version of the Internet Simulator. You've likely noticed that the structure of the messages has changed a little bit to include IP addresses both for you and for the person you are sending the messages to. If you look at the



network visualization, you can find the IP addresses of your friends on the router. Use the new tool and get comfortable with the updated message format.

Choose two classmates on your router and exchange a short conversation with one another. Make sure your messages are getting through and that you're not sharing any secrets. You'll see why in a second!

#### □ Read Router Traffic

Move to the router tab and click the "Log Browser" button to see the network traffic for your router. Then respond to the questions below.

How many total massages passed over your router?	Instructions My Device Router
How many total messages passed over your router?	Stats
	Uptime 0:10:14
	Queued Packets 0
About what percent of those messages did you actually	Memory Use Ob / Unlimited
receive?	Throughput Obps / Unlimited
	Routed Packets 1/1(100%)
	Routed Data 8B / 8B (100%)
Did all the management the management 2 What with the management	Logs
Did all the messages get through? Why might a message have been "Dropped"?	Log Browser
nave been bropped .	My Router Logs
	Time   Logged By Status From To Message 4:54:37.640 PM Router 2 Success 2.9   2.14   Hello!
	Close
Can you trace a full conversation between two of your class	esmates? What types of things are
people talking about?	sinates: What types of things are
people talking about?	

#### □ Have Ms. Pluska check off Read Router Traffic



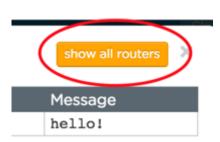
Before you continue have Ms. Pluska check off Read Router Traffic

Do not continue until you have Ms. Pluska's (or her designated TA's) signature \_\_\_\_\_\_

## □ Play a Round of Battleship

Ask two classmates from different routers to share their IP addresses with you.

Once you have connected with your classmates, play a round of battleship.



Read the traffic. In the same tab as before, click on the "Log Browser" button again, and then the "Show all routers" button. Respond to the following,
How many total messages were sent?
Can you trace the full conversation between two of your classmates?
Is there anything different about the way messages are being sent this time? Why might that be the case?
Check out the messages you sent to one of your classmates during the battleship game.  Did your messages always take the same path? What do you think this is simulating?
<ul> <li>□ Have Ms. Pluska check off Play a Round of Battleship</li> </ul>
STOP
Before you continue have Ms. Pluska check off Play a Roundn of Battleship
Do not continue until you have Ms. Pluska's (or her designated TA's) signature
□ Reflect
Based on your experience with the Internet Simulator today, respond to the questions below
Describe the relative benefits of routing over a broadcast style of communication. Is routing traffic more secure than broadcasting? Justify your answer.

Can you know in advance the path a message will take between you and another computer on the Internet? Justify your answer
An Internet service provider (ISP) just purchased all the routers in your area. What types of things is this ISP capable of doing? Are you comfortable with this arrangement?
□ Define key Vocabulary
Write definitions for the following
Network Redundancy
Router
□ Receive Credit for the group portion of this lab
A Receive create for the group portion of this lab
STOP
Indicate the names of all group members.
Have Ms. Pluska check your Number Systems lab.
<ul> <li>Submit your lab to the needs to be graded folder to receive credit for the group portion of this lab.</li> </ul>
Do not submit your lab until you have Ms. Pluska's (or her designated TA's) signature