Write your name below and indicate your role,

Project Manager (PM), Recorder (R)

Name _____ Role _____

Name _____ Role _____

Sending Text

Your Tasks

- ☐ Develop a protocol to represent the 50 states
- ☐ Write a protocol for sending letters
- ☐ Have Ms. Pluska check off your protocol for sending letters
- ☐ Get Acquainted with the Internet Simulator
- ☐ Send a simple text message
- ☐ Send a multi-word/number text message
- ☐ Have Ms. Pluska check off your protocol for sending a multi-word/number text message
- ☐ Compare yoru protocol to the ASCII System
- ☐ Define key vocabulary
- ☐ Receive credit for the group portion of this lab

☐ Develop a protocol to represent the 50 states

Imagine we wanted to create a system that would allow you to represent each of the 50 states.

- What's the smallest number of bits you would need to ensure you'd have unique patterns for each state?
- Write down how you would represent these 3 different states in your system. Then add two more of your own.

Smallest number of bits		
	Binary	**Decimal**
Vermont		
Idaho		
Arizona		

☐ Develop a protocol to send letters

When we communicate on the Internet we're not usually sending numbers back and forth, we're sending text! We therefore need a system for sending text.

Consider the 26 letters of the alphabet shown below. How might you send the letters using binary code? You may be thinking, "I could represent 'A' as 0, and 'B' as '1'", But, how do you know that '1' represents 'B' and not the actual number '1'?

In the space below, come up with a protocol that will (1) enable you to send the letters below in binary code and (2) differentiate numbers from letters. Once you have decided on a protocol assign a binary representation to the letters of the alphabet.

Letter	Binary	Letter	Binary
A		N	
B		O	
C		P	
D		Q	
E		R	
F		S	
G		T	
H		U	
I		V	
J		W	
K		X	
L		Y	
M		Z	

☐ Have Ms. Pluska check off your protocol for sending letters

STOP

Before you continue have Ms. Pluska check off your protocol for sending letters

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

☐ Get Acquainted with the Internet Simulator

Altough the version of the Internet Simulator you're using only lets you send numbers, that doesn't mean we can't figure out a way to send text. Navigate to the link below and connect with your partner.

https://studio.code.org/s/csp1-2018/stage/7/puzzle/2

☐ Send a simple text message

Consider the three text messages below:

- OMG
- LOL
- IMO

Using the binary convention you developed above, try sending a simple one word text message to your partner.

Pick one of the above messages to send... see if your partner can receive it!

Without talking, each member should try a text to their partner. Write your results below.

Message sent	Message received

☐ Send a multi-word/number text message

More often than not, the texts you send contain multiple words and even numbers. Consider the texts below:

- P911
- L8R
- SHOWS AT 8
- CYA 2NITE

Discuss with your partner a protocol for sending messages with spaces AND numbers. Write your protocol in the space below.   In your protocol,

- Indicate how you distinguish between numbers and letters.
- Indicate how you indicate a space

Pick one of the above messages to send (or make your own)... see if your partner can receive it!

Without talking, each member should try a text to their partner. Write your results below.

Message sent	Message received

☐ Have Ms. Pluska check off your protocol for sending a multi-word/number text message

Before you continue have Ms. Pluska check off your protocol for sending a multi-word/number text message

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

☐ Compare your protocol to the ASCII System

ASCII (American Standard Code for Information Interchange) is a widely used system for character encoding. It was originally developed in 1963 as a 7-bit system allowing for 128 characters. Symbols 0-31 and 127 were reserved for control characters (e.g. "Backspace" or "Delete") with the numbers 32-126 being used for printable characters. As the 8-bit "byte" became standardized, ASCII was extended to the 8-bit format. Following the link below to see the ASCII encoding for common characters.

https://tinyurl.com/y3ekfjn7

Compare the ASCII system to the system you developed.

- • What's the same as the system you created?
- • What's different?
- • What is most interesting or surprising about this system?

Write your response below

☐ Define Key Vocabulary

Write definitions for the following

ASCII

☐ Receive Credit for the group portion of this lab

- Indicate the names of all group members.

- Have Ms. Pluska check your Sending Text lab

- Submit your lab to the needs to be graded folder to receive credit for the group portion of this lab.

- Do not submit your lab until you have Ms. Pluska's (or her designated TA's) signature _____