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CSE1010 Sec 37

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# Problem

Computers store all information in binary, as electrical signals which are either on or off. Sending data is simplest when it is in binary, and can be sent via flashes of light. You will use the Arduino board as the driving circuit for a communications channel that uses light to communicate with another computer.

# Input

Input whether you want to send a string, receive a string, or exit the program

Input the string you want to send

Constraints:

Choice for input 1 must be 1, 2, 3

# Output

The input, having been converted to binary, passed from one computer to another, and returned to string form

# Example

|  |  |  |  |
| --- | --- | --- | --- |
| Input | ‘hello’ | ‘world’ | ‘abcdefg’ |
| Binary | 1101000  1100101  1101100  1101100  1101111 | 1110111  1101111  1110010  1101100  1100100 | 1100001  1100010  1100011  1100100  1100101  1100110  1100111 |
| Output | ‘hello’ | ‘world’ | ‘abcdefg’ |

# Algorithm

1. User decides if they want to send, receive, or quit program
2. If user decides to send a string, the code prompts the user to enter the string that they want to send
3. Once the string has been inputted, it is converted to binary and sent to the other computer via light signals
4. The user who selected receive the program waits for the string to be sent. Once it has been sent, the receive functions processes it, converts from binary to English, and displays the original string
5. The user is then asked if they want to send or receive another string, or quit the program