Chapter 7 Parallel Arrays – Encoded Message

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Instructions:

For this assignment, you will be providing the logic (plan) for the following program:

For this program, you will use parallel arrays to make a secret code creator. The first array (alpha array) will hold all upper and lower case letters, space, period, comma, and exclamation point. You will create a second array of the same size (code array) to hold your secret code characters. Make sure you do not duplicate any characters. In other words, the letter 'm' might appear in both arrays, but no more than once in each array.

**Example:**

alpha = ['a', 'A', 'b', 'B' . . . ]   # partial array for the first array

code = ['%', 'm', '#', '='  . . .]   # partial array for corresponding coded characters

With this example, lower-case 'a' would be encoded as '%' since both are found at subscript position zero.

You will ask the user for a secret phrase and encode each character by finding it in the alpha array and displaying the corresponding character from the code array. You will display the encoded message on-screen as a list and also write it to a file, one character per line.

Data:

Functions

* Main(): main function, asks for user’s secret phrase
  + Variables / User input
    - Message: String, user’s input
    - encodedMessage: string array containing the encoded letters
* encode(): receives plaintext message, loops through each character, and match it to the encoded array
  + Variables / User Input
    - Encoded\_message: empty string array. Will append encoded characters
* Print\_to\_file(): receives the encoded message array. Writes the characters in the array to a line in the encode.txt file.
  + Variables:
    - Message: User’s encoded array
    - File: creates and writes to the encode.txt file

Processing:

1. Get user’s secret phrase
2. Create an empty string array
3. Loop through the characters in the user’s secret message
4. Get the index of that character in the alpha array
5. Find the corresponding character in the code array
6. Append the encoded character to the encoded\_array
7. Open up file to “encode.txt” and read each encoded character to its own line in the txt file.

Output:

1. After receiving the user’s secret phrase, I will output the encoded array. For example,

['G', 'D', 'K', 'K', 'j', 'Z', 'G', 'j', 'K', 'K', 'N', ',']

1. Then each of those characters are written to the txt file.

G

D

K  
K  
j

Z

G  
j

K

K

N

,