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Lab Section: 2 MW 11-1
Due 3/8/16

Title
Lab 6: Ceaser cipher

Purpose:
The purpose of the lab is to take in a string and encrpyt or decrypt it using a 2d array in lc-3 to learn how array's work and further our understanding of lc-3.

Procedure:
The methodology used is shwon in my flow chart. It starts by printing the prompt and asking the user for an e d or x. if its an x exit the program immediately. If its and e or d sotre this information in a register for later use and move on. Then we ask the user for the cipher betweeen 1-25. we then implement our number storage method from last lab, of doing int = 10 * int + digit in order to store a 2 digit number. We then test for LF if it is entered we move on to the next stage of intaking user input and storing it in our 2d array. If they input a non- character meaning anything that is not a-z or A-Z, then we load it emmediately into the 2nd half of the array. If it is a charcter we mvoe it forward into being changed by the cipher. If it is encryption we add the cipher, if the value of the new character is larger than Z or z then we subtract 26, and the opposite is true for decryption. We subtract the cipher and if the new characters value is less than a or A then we add 26. Once LF is entered we move on to print the 2nd half of the array. The first half is printed as an echo of the inputted characters. We wipe the array and begin again from the start.

Challenges:
This assignment was very challenging. Making sure that we had all of our code organized and no register was changed when it shouldnt have been was difficult. To add to the difficulty was the fact that code could only look so far further in the code for labels so I had to make a few blocks in the middle of my code in order for it to work and the labels to reach where they needed. Other challenging issues were getting my cipher t add correctly and not to print any characters that were not letters and to go aroyund the cycle correctly.