

## EECS 2100 – Project 2 - Due March 2, 2012

Write an assembly language program to obtain a line of input from the keyboard (a string). Either a loop using the int 21h (function code 08) with echo, a loop using the \_getch function, or the getstr function may be used to obtain the string. Limit the string to 50 characters maximum. Then, prompt the user for which function is desired. The functions, as well as sample outputs, are as follows:

Function 1: Determine where the first occurrence of a user-input character is in the string (prompt the user for which character to search for). Spaces count as a character.

Find the first 'a' in the string  
Independence Day, 2012!  
The first 'a' occurs in position 15

Function 2: Find the number of occurrences of a certain letter in a string

The letter 'e' occurs in the string  
Independence Day, 2012!  
4 times

Function 3: Find the length of the input string.

There are 23 characters in the string  
Independence Day, 2012!

Note: the spaces count as a character in the overall length

Function 4: Find the number of characters of the input string.

There are 21 characters in the string  
Independence Day, 2012!

Note: the spaces count as a character in the overall length

Function 5: Write a routine that replaces every occurrence of a certain letter with another symbol

Replacing all of the d's in the string  
Independence Day, 2012!

With h yields

Inhepenhence Day

Note that the D remained unchanged.

Function 6: Capitalize the letters in the string

Capitalizing each letter in the string

Independence Day, 2012!

yields

INDEPENDENCE DAY, 2012!

Note that the numbers and punctuation marks remain unchanged

Function 7: Make each letter lower case

Making each letter lowercase in the string

Independence Day, 2012!

yields

independence day, 2012!

Note that the numbers and punctuation marks remain unchanged

Function 8: Toggle the case of each letter

Toggling of the letter in the string

Independence Day, 2012!

yields

iNDEPENDENCE dAY, 2012!

Note that the D remained unchanged.

Function 9: input a new string

Function 10: undo the last action that modified the string

Function 100: output the menu

Function 0: exit the program

Output the menu after obtaining the string for the first time. Prompt the user for input where needed. Display prompts for any keyboard input needed is required. The program must loop back for additional user input (new strings or functions), and provide an exit function (function 0). Check for invalid input for the menu; if the user enters an invalid input, re-output the menu and ask for the function again.

Turn in a hard copy of your source code, as well as a hard copy of its execution. In addition, please email the source code of your program (as an attachment) to your instructor.