

# Report COL216 LAB ASSIGNMENT 1

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## 1 Introduction

First of all, This is an assignment in 3 stages where 1st stage we are comparing any two strings and printing whether first one is large or second one.

Now I had made four files: Main file(MyMainCode.s), IO file(io.s), Function file: (Function.s) and Helping Files: (UpdatedUsefulFunctions.s)

## 2 Stage 1

My code is compatible to Angel only as i have used fgets and prints, So please turn off Legacy plugin in preferences.

In stage 1 As I had used four files. In main file, I have two lines first will ask input 0 or 1, 0 for sensitive and 1 for insensitive. After getting the input 0 or 1 as string, it will go to bl compare, which takes it to function file where checking of 0 or 1 as input and comparing will take place. If we have input 1 then the comparison will be Case insensitive.

The IO file : I have used IO file to take input whether 0 or 1 by the help of branch inask. For taking inputs for Case Insensitive and Case Sensitive, I have used inin and in branch respectively. The inask branch is called from Main Code for taking 1 or 0 as input. The inin and in branch are called from Function file where we are comparing the strings. For printing I have used different branches where printin or print compares the characters and call print1, print2, print3 depending on larger, equal or shorter. Data is stored in this file and used for giving outputs and taking inputs.

Function File : It will have a branch compare which will compare then on basis of that will move to Case 1 and Case 2 where strings will be compared.

How I took input : I have used fgets and prints in IO file So actually my branches inask, in, inin just fulfill the parameters in registers and setup the registers for comparison. But for Input I have used fgets and printing I have used prints basically.

For taking input I have made some small changes in fgets and prints where we are comparing for /r, I was not needed that So I commented that part. Also for taking multiple inputs I have set cpsr flags 0000 after every call of fgets.

For Comparing two strings, I have used the loop to iterate over. If you get two character different from one other, print smaller or larger accordingly, else keep on iterating if they are equal. If it comes to end, that is it checks slash 0 or slash r then it ends. If one of the string is smaller than other than the character will be compared with slash 0 and will print the string with extra char larger if all previous chars are equal. I have used ASCII for comparison which also follow dictionary order. We will have Priority(a) > Priority(z) > Priority(A-Z).

For Case Insensitive: I have subtracted 32 if the value  $\geq 97$ , So if we get small a, it will be converted to A. And similarly other small letters will be converted to bigger letters. First the loop will check whether it is bigger than 97 than if yes it will subtract 32 if not it will not subtract. Then it will make other comparisons. Also characters like slash r, slash n, slash 0 are safe from -32 procedure.

Output Results:

For insensitive

1. Ab, Abab : Second is larger
2. Ab, ab: They are equal
3. Apple, apple: They are equal
4. Apple, App: First is larger
5. Apple, app: First is larger

For Sensitive:

1. Ab, abab: Second is larger
2. Ab, ab : Second is larger
3. Apple, apple: Second is larger
4. Apple, App: First is larger
5. Apple, app: Second is larger

How to use my code: 1. First load files with this priority:

Main file

function file

IO file

UpdatedUsefulFunctions

2. Load and play, It will ask for 0 or 1 give 1 for Insensitive and 0 for Sensitive and press Enter. 3. It will then ask for Two Strings, give first string, press enter and then give second string. 4. Don't use backspace, it will be counted as Ascii value in my code. 5. After entering second string, press Enter,

it will show the result.

Some Limitations:

I have taken input with a space of 400. So it can take input strings at max length of 400.

Also For windows, as last character is " slash r slash n", I have made my program end accordingly. It might not properly terminate for Other Operating System.