# ASSIGNMENT 1 STAGE 1 REPORT

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## 1 Description

An assembly program that takes in input 2 null-terminated strings of arbitrary length and a comparison mode to give an output whether first string is less, equal or greater than the second string.

## 2 Details of compare.s file

1. My function compare takes in 3 arguments - r0 has pointer to s1, r1 has pointer to s2, r2 has comparison mode r0 = #0 means Both strings are equal, r0 = #1 means First string is less than second, r0 = #2 means First string is greater than second

2. The Body label checks if a character of one string is less or more than the other at the same position and if it is then returns the appropriate value in r0 back to main.

3. It has mainly 2 loops, Loop0 and Loop1, where Loop0 does the comparison in case-insensitive mode while Loop1 does the comparison in case-sensitive mode. In case-insensitive mode, I have converted all upper case characters to lower case characters.

## 3 Details of UsefulFunctions.s file

I have used UsefulFunctions.s for I/O handling, after making few corrections as suggested on piazza and I have also added support for backspace key. I added if character read in is of ASCII 0x08 then we should delete the previous character from the buffer and continue reading.

## 4 Details of main.s file

My main.s file calls compare routine and displays appropriate output based on the input.

# 5   Format of my I/O

Test Inputs:

1. The user gets a prompt for every input he/she has to make. The input prompt gives a "Enter first string:" prompt for entering first string, "Enter second string:" prompt for entering second string and "Enter comparison mode (0 for case-insensitive and 1 for case-sensitive):" prompt for entering comparison mode.

2. Comparison mode has 0 as case-insensitive mode and 1 as case-sensitive mode.

Test Outputs: I have hardcoded 3 messages, which says if the first string is less, equal or greater than the second string.

# 6   Sample Input

Enter first string:
fH
Enter second string:
fg
Enter comparison mode (0 for case-insensitive and 1 for case-sensitive):
0
First string is greater than the second

Enter first string:
fH
Enter second string:
fg
Enter comparison mode (0 for case-insensitive and 1 for case-sensitive):
1
First string is less than the second

Enter first string:
fh
Enter second string:
fh
Enter comparison mode (0 for case-insensitive and 1 for case-sensitive):
0
Both strings are equal