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#Salam Salloum

##################################

.data

Prompt: .asciiz "The two strings will be swapped:\n"

Result: .asciiz "\nThe result is:\n"

space: .asciiz " "

line: .asciiz "\n"

str1: .asciiz "Hello World"

str2: .asciiz "Goodbye sir"

.globl main

.text

main: la $a0, Prompt #Print prompt

li $v0, 4

syscall

la $a0, str1 #print first string

syscall

la $a0, line

syscall

la $a0, str2 #print second string

syscall

la $a0, str1 #preparing arguments to be passed to function

la $a1, str2

li $a2, 12 #length of both strings + nullspace

jal swap #call function

li $v0, 10 #Terminate

syscall

swap: blez $a2, done #End of strings

lb $t0, 0($a0) #load byte into variable 1

lb $t1, 0($a1) #load byte into variable 2

sb $t0, 0($a1) #store byte into other address

sb $t1, 0($a0)

addi $a0, $a0, 1 #incrementing

addi $a1, $a1, 1

addi $a2, $a2, -1

bgtz $a2, swap #loop until end of string

done: la $a0, Result

syscall

la $a0, str1 #print new str1

syscall

la $a0, line

syscall

la $a0, str2 #print new str2

syscall

jr $ra #exit function

###################################

The two strings will be swapped:

Hello World

Goodbye sir

The result is:

Goodbye sir

Hello World