

# ASSEMBLY - CMPS INSTRUCTION

[http://www.tutorialspoint.com/assembly\\_programming/assembly\\_cmps\\_instruction.htm](http://www.tutorialspoint.com/assembly_programming/assembly_cmps_instruction.htm)

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The CMPS instruction compares two strings. This instruction compares two data items of one byte, word or doubleword, pointed to by the DS:SI and ES:DI registers and sets the flags accordingly. You can also use the conditional jump instructions along with this instruction.

The following example demonstrates comparing two strings using the CMPS instruction –

```
section .text
    global _start                ;must be declared for using gcc

_start: ;tell linker entry point
    mov esi, s1
    mov edi, s2
    mov ecx, lens2
    cld
    repe cmpsb
    jecxz equal                 ;jump when ecx is zero

    ;If not equal then the following code
    mov eax, 4
    mov ebx, 1
    mov ecx, msg_neq
    mov edx, len_neq
    int 80h
    jmp exit

equal:
    mov eax, 4
    mov ebx, 1
    mov ecx, msg_eq
    mov edx, len_eq
    int 80h

exit:
    mov eax, 1
    mov ebx, 0
    int 80h

section .data
s1 db 'Hello, world!',0        ;our first string
lens1 equ $-s1

s2 db 'Hello, there!', 0      ;our second string
lens2 equ $-s2

msg_eq db 'Strings are equal!', 0xa
len_eq equ $-msg_eq

msg_neq db 'Strings are not equal!'
len_neq equ $-msg_neq
```

When the above code is compiled and executed, it produces the following result –

```
Strings are not equal!
```