

ASSEMBLY - SCAS INSTRUCTION

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The SCAS instruction is used for searching a particular character or set of characters in a string. The data item to be searched should be in AL *for SCASB*, AX *for SCASW* or EAX *for SCASD* registers. The string to be searched should be in memory and pointed by the ES:DI *or EDI* register.

Look at the following program to understand the concept –

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

_start:                    ;tell linker entry point

    mov ecx, len
    mov edi, my_string
    mov al, 'e'
    cld
    repne scasb
    je found ; when found
    ; If not not then the following code

    mov eax, 4
    mov ebx, 1
    mov ecx, msg_notfound
    mov edx, len_notfound
    int 80h
    jmp exit

found:
    mov eax, 4
    mov ebx, 1
    mov ecx, msg_found
    mov edx, len_found
    int 80h

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

section .data
my_string db 'hello world', 0
len equ $-my_string

msg_found db 'found!', 0xa
len_found equ $-msg_found

msg_notfound db 'not found!'
len_notfound equ $-msg_notfound
```

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

```
found!
```

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