

ASSEMBLY STOS INSTRUCTION

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The STOS instruction copies the data item from AL *forbytes* – STOSB, AX *forwords* – STOSW or EAX *fordoublewords* – STOSD to the destination string, pointed to by ES:DI in memory.

The following example demonstrates use of the LODS and STOS instruction to convert an upper case string to its lower case value –

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

_start:                    ;tell linker entry point
    mov     ecx, len
    mov     esi, s1
    mov     edi, s2

loop_here:
    lodsb
    or      al, 20h
    stosb
    loop    loop_here
    cld
    rep movsb

    mov     edx, 20        ;message length
    mov     ecx, s2        ;message to write
    mov     ebx, 1        ;file descriptor (stdout)
    mov     eax, 4        ;system call number (sys_write)
    int     0x80          ;call kernel

    mov     eax, 1        ;system call number (sys_exit)
    int     0x80          ;call kernel

section .data
s1 db 'HELLO, WORLD', 0 ;source
len equ $-s1

section .bss
s2 resb 20              ;destination
```

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

```
hello_world
```

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