
asm Documentation

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0xzhang

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This document is about some records of progress of learn asm. In Examples directory, there are many asm programs(IBM PC x86 asm) from simple- to difficult-level and in Exercises directory will contains some asm code segment for improve asm reading ability.

CHAPTER 1

Build Environment

In Windows, we use assembly, linker tools tools compile and link assembly code file and you may need tools [resources](#) here. It contains masm, linker, debug and dosbox install executions, they all can run in Windows_x86 enviroment.

In Linux, you can use corresponding package-manager install dosbox tools or use virtual machine to build Windows enviroment.

CHAPTER 2

Examples

2.1 Compare String

```
1 ;PROGRAM TITLE GOES HERE--Compare string
2 ;*****
3 dataarea segment ;define data segment
4 string1 db 'Move the cursor backward.'
5 string2 db 'Move the cursor backward.'
6 ;
7 mess1 db 'Match.',13,10,'$'
8 mess2 db 'No Match!',13,10,'$'
9 dataarea ends
10 ;*****
11 program segment ;define code segment
12 ;-----
13 main proc far
14
15 assume cs:program,ds:dataarea,es:dataarea
16
17 start: ;starting execution address
18
19 ;set up stack for return
20 push ds ;save old data segment
21 sub ax,ax ;put zero in AX
22 push ax ;save it on stack
23
24 ;set DS register to current data segment
25 mov ax,dataarea ;dataarea segment addr
26 mov ds,ax ; into DS register
27 mov es,ax ; into ES register
28 ;MAIN PART OF PROGRAM GOES HERE
29 lea si,string1
30 lea di,string2
31 cld
```

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```
32      mov     cx,25
33      repz    cmpsb
34      jz      match
35      lea     dx,mess2
36      jmp     short disp
37 match:
38      lea     dx,mess1
39 disp:
40      mov     ah,09
41      int     21h
42      ret                                ;return to DOS
43
44 main      endp                        ;end of main part of program
45 ;-----
46 program ends                          ;end of code segment
47 ;*****
48      end      start                  ;end assembly
```

CHAPTER 3

Exercises
