

Swapping elements of an array.

.model small

.data

a db 10h, 20h, 30h, 40h, 50h

b db 11h, 22h, 33h, 44h, 55h

.code

mov ax, @data.

mov ds, ax

lea si, a

lea di, b

mov cx, 05h

l1: mov al, [si]

xchg al, [di]

mov [si], al

inc si

inc di

loop l1

mov ah, 4ch

int 21h

end.

DOSBox 0.74-3, Cpu speed: 3000 cycles, Frameskip 0, _ _ _

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C:\MSMEXCHANGE.ASM

```
.model small
.data
    a db 16h, 20h, 30h, 40h, 50h
    b db 11h, 22h, 33h, 44h, 55h

.code
mov ax,0data
mov dx,ax
lea si,a
lea di,b
mov cl,05h
!!mov al,[si]
xchg al,[di]
mov [si],al
inc si
inc di
loop !!
mov ah,4ch
int 21h
end
```

DOSBox 0.74-3, Cpu speed: max 100% cycles, Frameskip

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local

source1 CS:IP (ACTIVE)

052A:0000	B82B05	MOV	AX,052B
052A:0003	BED0	MOV	BS,AX
052A:0005	DD368000	LEA	SI,Word Ptr [0000E]
052A:0009	DD3E1300	LEA	DI,Word Ptr [00131]
052A:000B	B105	MOV	CL,05
052A:000F	DA04	MOV	AL,Byte Ptr [51]
052A:0011	B605	XCHG	AL,Byte Ptr [D1]
052A:0013	B804	MOV	Byte Ptr [51],AL
052A:0015	46	INC	SI
052A:0016	47	INC	DI
052A:0017	E2F6	LOOP	000F
052A:0019	B44C	MOV	HL,4C
052A:001B	CD21	INT	21
052A:001D	0011	ADD	Byte Ptr [DX+D1],DL
052A:001F	2233	AND	DI,Byte Ptr [DP+D1]
052A:0021	44	INC	SP

Command

052B:0000	04 06 05 00 04 46 47 E2-F6 B4 4C CD 21 00 11 22
052B:0010	33 44 55 10 20 30 40 50-02 H1 16 E4 01 E8 99 02	3001

reg

AX	= 4C55
BC	= 0000
CX	= 0000
DX	= 0000
SP	= 0000
BP	= 0000
SI	= 0013
DI	= 001B
DS	= 052B
ES	= 051A
SS	= 0529
CS	= 052A
IP	= 001D
FL	= 0000

NU UP EI FL
NZ NA PE NC

DS:0010
02

• model small

• data

• code

mov ax, @data

mov ds, ax

mov al, 63h

add al, 88h

daa

mov ah, 4ch

int 21h

end



DOSBox 0.74-3, Cpu speed: 3000 cycles, Frameskip 0, —



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C:\MSMD.ASM

```
.model small
.data
.code
mov ax,data
mov ds,ax
mov al,63h
add al,00h
das
mov ah,4ch
int 21h
end
```

DOSBox 0.74-3, Cpu speed: max 100% cycles, Frameskip ...

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Local				reg
source1 CS:IP (ACTIVE)				
052A:0000	B82A05	MOV	AX, 052A	AX = 4C51
052A:0003	BE00	MOV	DS, AX	DX = 0000
052A:0005	B063	MOV	AL, 63	CX = 0000
052A:0007	0400	ADD	AL, 00	DX = 0000
052A:0009	27	DAA		SP = 0000
052A:000A	B44C	MOV	DI, 4C	BP = 0000
052A:000C	CD21	INT	21	SI = 0000
052A:000E	B79A	MOV	DI, 9A	DI = 0000
052A:0010	B9FFFF	MOV	CX, FFFF	DS = 052A
052A:0013	B85800	MOV	AX, 0058	ES = 051A
052A:0016	E8B902	CALL	02B2	SI = 0529
052A:0019	BCDA	MOV	DX, DS	CS = 052A
052A:001B	E8B902	CALL	02C9	IP = 000E
052A:001E	B792	MOV	DI, 92	FL = 0013
052A:0020	B9FFFF	MOV	CX, FFFF	
052A:0023	B84000	MOV	AX, 0040	

Command list																
052A:0000	B8	2A	05	BE	00	B0	63	04	00	27	B4	4C	CD	21	B7	9A
052A:0010	B9	FF	FF	B8	58	00	E8	B9	02	BC	DA	E8	AB	02	B7	92

NU UP EI FL
HZ AC PD CY

Ctrl-Trace Ctrl-Stop Ctrl-Go Ctrl-Window Ctrl-Display

• model small

• data

num1 db 00h, 03h, 42h, 98h

num2 db 07h, 77h, 13h, 64h

res db 4 dup (?)

• code

mov ax, @data

mov ds, ax

mov si, 03h

mov cl, 04h

clc

deciadd: mov al, num1[si]

adc al, num2[si]

daa

mov num2[si], al

dec si

loop deciadd

mov ah, 4ch

int 21h

end

assembler d
duplicates

; 0003

; 07571

760

```
_model small
.data
    num1 db 08h, 03h, 42h, 98h
    num2 db 07h, 57h, 13h, 64h
    res db 4 dup(?)

.code
mov ax, @data
mov ds, ax
mov si, 03h
mov ci, 04h
cld
dec1add: mov al, num1[si]
        adc al, num2[si]
        daa
        mov num2[si], al
        dec si
        loop dec1add
        mov ah, 4ch
        int 21h
        end
```


052B:0000	B82D05	MOV	AX,052D
052B:0003	8ED8	MOV	DS,AX
052B:0005	BE0300	MOV	SI,0003
052B:0008	B104	MOV	CL,04
052B:000A	F8	CLC	
052B:000B	8A840000	MOV	AL,Byte Ptr [SI+0000]
052B:000F	12B40400	ADC	AL,Byte Ptr [SI+0004]
052B:0013	27	DAA	
052B:0014	88B40000	MOV	Byte Ptr [SI+0008],AL
052B:0018	4E	DEC	SI
052B:0019	E2F0	LOOP	000B
052B:001B	B44C	MOV	AH,4C
052B:001D	CD21	INT	21
052B:001F	0000	ADD	Byte Ptr [BX+SI],AL
052B:0021	034298	ADD	AX,Word Ptr [BP+SI-68]
052B:0024	07	POP	ES

	command																
052B:0000	00	03	42	98	07	57	13	64	07	60	56	62	06	E6	01	20	..B..
052B:0010	00	06	8E	06	E4	01	26	8B	16	2C	00	E8	7B	02	B7	92