

q1:

Code1:

```
[org 0x0100]
```

```
xor ax, ax
```

```
xor bx, bx
```

```
xor cx, cx
```

```
xor dx, dx
```

```
jmp main
```

*Sum:*

```
mov cx, 7
```

*tag1:*

```
add ax, [data + bx]
```

```
add bx, 2
```

```
loop tag1
```

```
ret
```

```
ret
```

*main:*

```
call Sum
```

```
mov [result], ax
```

```
; call Sum
    mov ax, 0x4c00
    int 0x21
data: dw 1,2,1,1,1,1,1
result: dw 0
```

Code2:

```
[org 0x0100]
xor ax, ax
xor bx,bx
xor cx,cx
xor dx,dx
jmp main
```

Sum:

```
    push bp
    mov bp, sp
    mov ax,[bp + 6]
    mov dx, [bp + 4]    ; second parameter
    add ax, dx
    pop bp
ret
```

```
ret
```

```
main:
mov cx,7
tag:
    mov dx,[data+bx]
    add bx,2
    push ax
    push dx
    call Sum
loop tag
mov [result],ax
; call Sum
    mov ax, 0x4c00
    int 0x21
data: dw 1,2,1,1,1,1,1
result: dw 0
```

Output:

```

DOSBox 0.74-3, Cpu speed: 3000 cycles, Frameskip 0, Program: AFD
AX 0008 SI 0000 CS 19F5 IP 0120 Stack +0 0000 Flags 7200
BX 000E DI 0000 DS 19F5 +2 20CD
CX 0000 BP 0000 ES 19F5 HS 19F5 +4 9FFF OF DF IF SF ZF AF PF CF
DX 0000 SP FFFE SS 19F5 FS 19F5 +6 EA00 0 0 1 0 0 0 0 0

CMD >

011D A33301 MOV [0133],AX
0120 B8004C MOV AX,4C00
0123 CD21 INT 21
0125 0100 ADD [BX+SI],AX
0127 0200 ADD AL,[BX+SI]
0129 0100 ADD [BX+SI],AX
012B 0100 ADD [BX+SI],AX
012D 0100 ADD [BX+SI],AX
012F 0100 ADD [BX+SI],AX

1 0 1 2 3 4 5 6 7
DS:0000 CD 20 FF 9F 00 EA F0 FE
DS:0008 AD DE 1B 05 C5 06 00 00
DS:0010 18 01 10 01 18 01 92 01
DS:0018 01 01 01 00 02 FF FF FF
DS:0020 FF FF FF FF FF FF FF FF
DS:0028 FF FF FF FF EB 19 C0 11
DS:0030 A2 01 14 00 18 00 F5 19
DS:0038 FF FF FF FF 00 00 00 00
DS:0040 05 00 00 00 00 00 00 00
DS:0048 00 00 00 00 00 00 00 00

2 0 1 2 3 4 5 6 7 8 9 A B C D E F
DS:0000 CD 20 FF 9F 00 EA F0 FE AD DE 1B 05 C5 06 00 00 = f.~  i |..+...
DS:0010 18 01 10 01 18 01 92 01 01 01 01 00 02 FF FF FF .....ff. ....
DS:0020 FF FF FF FF FF FF FF FF FF FF FF FF EB 19 C0 11 .....δ.L.
DS:0030 A2 01 14 00 18 00 F5 19 FF FF FF FF 00 00 00 00 ó.....J. ....
DS:0040 05 00 00 00 00 00 00 00 00 00 00 00 00 00 00 .....

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```

Q2:

[org 0x0100]

jmp main

Prod:

push bp

mov bp, sp

mov ax, [bp + 6] ; frist parameter

mov bx, [bp + 4] ; second parameter

mul bx

mov [resultMul],ax

mov ax,[bp + 6]

div bx

mov[resultDiv],ax

```
    pop bp
ret
```

```
main:
```

```
    mov ax, 4
```

```
    mov bx, 3
```

```
    push ax
```

```
    push bx
```

```
    call Prod
```

```
    mov ax, 0x4c00
```

```
    int 0x21
```

```
resultMul: dw 0
```

```
resultDiv: dw 0
```

Output:

Mul;

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

AX	000C	SI	0000	CS	19F5	IP	010E	Stack	+0	0000	Flags	7200
BX	0003	DI	0000	DS	19F5				+2	0126		
CX	002F	BP	FFF6	ES	19F5	HS	19F5		+4	0003	OF	DF
DX	0000	SP	FFF6	SS	19F5	FS	19F5		+6	0004	IF	SF
											ZF	AF
											PF	CF

CMD >

0000

010C	F7E3	MUL	BX
010E	A32B01	MOV	[012B],AX
0111	8B4606	MOV	AX,[BP+06]
0114	F7F3	DIU	BX
0116	A32D01	MOV	[012D],AX
0119	5D	POP	BP
011A	C3	RET	
011B	B80400	MOV	AX,0004
011E	BB0300	MOV	BX,0003

1	0	1	2	3	4	5	6	7
DS:0000	CD	20	FF	9F	00	EA	F0	FE
DS:0008	AD	DE	1B	05	C5	06	00	00
DS:0010	18	01	10	01	18	01	92	01
DS:0018	01	01	01	00	02	FF	FF	FF
DS:0020	FF	FF	FF	FF	FF	FF	FF	FF
DS:0028	FF	FF	FF	FF	EB	19	C0	11
DS:0030	A2	01	14	00	18	00	F5	19
DS:0038	FF	FF	FF	FF	00	00	00	00
DS:0040	05	00	00	00	00	00	00	00
DS:0048	00	00	00	00	00	00	00	00

2	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
DS:0000	CD	20	FF	9F	00	EA	F0	FE	AD	DE	1B	05	C5	06	00	00
DS:0010	18	01	10	01	18	01	92	01	01	01	01	00	02	FF	FF	FF
DS:0020	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	EB	19	C0	11	
DS:0030	A2	01	14	00	18	00	F5	19	FF	FF	FF	FF	00	00	00	00
DS:0040	05	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00

= f.Ω= i |..+...  
.....f. .... δ.L.  
ó.....J. ....  
.....

Div:

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

AX	0001	SI	0000	CS	19F5	IP	0116	Stack	+0	0000	Flags	7200
BX	0003	DI	0000	DS	19F5				+2	0126		
CX	002F	BP	FFF6	ES	19F5	HS	19F5		+4	0003	OF	DF
DX	0001	SP	FFF6	SS	19F5	FS	19F5		+6	0004	IF	SF
											ZF	AF
											PF	CF

CMD >

0000

0114	F7F3	DIU	BX
0116	A32D01	MOV	[012D],AX
0119	5D	POP	BP
011A	C3	RET	
011B	B80400	MOV	AX,0004
011E	BB0300	MOV	BX,0003
0121	50	PUSH	AX
0122	53	PUSH	BX
0123	E8DDFF	CALL	0103

1	0	1	2	3	4	5	6	7
DS:0000	CD	20	FF	9F	00	EA	F0	FE
DS:0008	AD	DE	1B	05	C5	06	00	00
DS:0010	18	01	10	01	18	01	92	01
DS:0018	01	01	01	00	02	FF	FF	FF
DS:0020	FF	FF	FF	FF	FF	FF	FF	FF
DS:0028	FF	FF	FF	FF	EB	19	C0	11
DS:0030	A2	01	14	00	18	00	F5	19
DS:0038	FF	FF	FF	FF	00	00	00	00
DS:0040	05	00	00	00	00	00	00	00
DS:0048	00	00	00	00	00	00	00	00

2	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
DS:0000	CD	20	FF	9F	00	EA	F0	FE	AD	DE	1B	05	C5	06	00	00
DS:0010	18	01	10	01	18	01	92	01	01	01	01	00	02	FF	FF	FF
DS:0020	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	EB	19	C0	11	
DS:0030	A2	01	14	00	18	00	F5	19	FF	FF	FF	FF	00	00	00	00
DS:0040	05	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00

= f.Ω= i |..+...  
.....f. .... δ.L.  
ó.....J. ....  
.....

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