

PRACTICAL: 3(B6)

AIM: Write a Program to subtract the contents of memory location 4001H from the memory location 4002H and place the result in memory location 4003H without SUB instruction.

CODE:

```
org 100h
```

```
MOV [4001H], 0110B ;149
```

```
MOV [4002H], 0110B ;82
```

```
MOV AL, [4001H]
```

```
MOV BL, [4002H]
```

```
NOT BL
```

```
ADD AL, BL
```

```
MOV [4003H], AL
```

```
ret
```

OUTPUT:

emulator: PRAC_3B6.com_

file math debug view external virtual devices virtual drive help

Load reload step back single step run step delay ms: 0

registers

	H	L
AX	00	FF
BX	00	F9
CX	00	19
DX	00	00
CS	F400	
IP	0154	
SS	0700	
SP	FFFA	
BP	0000	
SI	0000	
DI	0000	
DS	0700	
ES	0700	

F400:0154

F4150:	FF	255	RES
F4151:	FF	255	RES
F4152:	CD	205	=
F4153:	20	032	SPA
F4154:	CF	207	±
F4155:	00	000	NULL
F4156:	00	000	NULL
F4157:	00	000	NULL
F4158:	00	000	NULL
F4159:	00	000	NULL
F415A:	00	000	NULL
F415B:	00	000	NULL
F415C:	00	000	NULL
F415D:	00	000	NULL
F415E:	00	000	NULL
F415F:	00	000	NULL
F4160:	FF	255	RES
F4161:	FF	255	RES
F4162:	CD	205	=
F4163:	1A	026	→
F4164:	CF	207	±
F4165:	00	000	NULL

F400:0154

BIOS DI
INT 020h
IRET
ADD [BX + SI], AL
ADD [BX + SI], AL
ADD [BX + SI], AL
ADD [BX + SI], AL
ADD [BX + SI], AL
ADD BH, BH
DEC BP
SBB CL, BH
ADD [BX + SI], AL
ADD [BX + SI], AL
ADD [BX + SI], AL
ADD [BX + SI], AL
ADD [BX + SI], AL
ADD BH, BH
DEC BP
ADD BH, CL
ADD [BX + SI], AL
ADD [BX + SI], AL
...

screen source reset aux vars debug stack flags

Random Access Memory

4003 update table list

0700:4003	FF	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
0700:4013	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
0700:4023	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
0700:4033	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
0700:4043	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
0700:4053	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
0700:4063	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
0700:4073	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00

CONCLUSION:

We learned about Subtraction Operation without SUB command. ($A - B = A + B'$).