

```
include emu8086.inc
org 100h
```

```
main:
```

```
push ax
push bx
push cx
push dx
pusha
```

```
PRINT "GIVE THE NUMBERS:"
```

```
mov cx,6
mov bx,0
mov dx,0
```

```
ignore: mov ah,8
int 21h ;waiting an input
cmp al,'Q'
je telos
cmp al,13
je cont
cmp al,30h
jl ignore
cmp al,39h
jg ignore ;accept only digits 0-9
mov ah,0eh
int 10h
sub al,30h ;change ASCII value to real value
clc
rcr al,1
jc odd
rcl al,1
add bl,al
jmp adding
odd:
rcl al,1
adding:
add dl,al ;dx will have the number that we
```

loop ignore ;insert from keyborad in hex form

cont: push ax

push dx

MOV AH,9 ;Change line.

MOV DX, offset msg3

INT 21H

pop dx

pop ax

mov bh,0

PRINT "SE="

push ax

push dx

MOV CX,0

MOV AX,BX ;!!!! BX had the number

BCD: ;Start making the number decimal from hex.

MOV DX,0

DIV sixteen ;Divide by 10,until you cannot do it anymore.

PUSH DX

INC CX ;Hold the number of digits.

CMP AX,0

JNE BCD

MOV DX,0

BCD_DIG:

POP AX ;Get in the reverse order the digits.

MOV DL,AL

cmp al,9

jg letter

ADD DL,30H

jmp print

letter: add dl,55

print: ;Transform them into correct ASCII codes.

MOV AH,2

INT 21H ;Print them one by one digit.

LOOP BCD_DIG

pop dx

pop ax

push ax

```
push dx
MOV AH,9      ;Change line.
MOV DX, offset msg3
INT 21H
pop dx
pop ax
```

```
mov bh,0
mov bl,dl
PRINT "SUM="
push ax
push dx
MOV CX,0
MOV AX,BX      ;!!!! BX had the number
BCD1:          ;Start making the number decimal from hex.
MOV DX,0
DIV ten        ;Divide by 10,until you cannot do it anymore.
PUSH DX
INC CX         ;Hold the number of digits.
CMP AX,0
JNE BCD1
MOV DX,0
BCD_DIG1:
POP AX         ;Get in the reverse order the digits.
MOV DL,AL
cmp al,9
jg letter1
ADD DL,30H
jmp print1
letter1: add dl,55
```

```
print1:        ;Transform them into correct ASCII codes.
MOV AH,2
INT 21H        ;Print them one by one digit.
LOOP BCD_DIG1
pop dx
pop ax
```

```
push ax
push dx
MOV AH,9      ;Change line.
```

```
MOV DX, offset msg3
INT 21H
pop dx
pop ax
```

```
popa
pop dx
pop cx
pop bx
pop ax
jmp main
```

```
telos:
```

```
ret
```

```
msg3 db 0ah,0dh,"$"
sixteen dw 0010H      ;Constant sixteen = 16.
ten dw 000AH          ;Constant ten = 10.
```