

;Write a program to find the sum of numbers from 1 to n. Read n from the user and display the sum as the decimal format. (also try to display the sum in Hexadecimal format)

TITLE SUM FROM 1 TO N

.MODEL SMALL

.DATA

STRLEN DB 8

STRSZ DB ?

STR DB 9 DUP('\$')

BASE DW 10

BASEH DW 10H

SUM DW ?

.STACK

.CODE

MAIN PROC FAR

MOV AX, @DATA

MOV DS, AX

;; GETTING THE NUMBER

LEA DX, STRLEN

MOV AH, 0AH

INT 21H

;; CONVERTING TO NUMBER

MOV CX, 00

MOV CL, STRSZ

LEA DI, STR

MOV AX, 00

L1: MOV BL, [DI]

CMP BL, '0'

JB BRK

CMP BL, '9'

JA BRK

```
;; CONVERTING TO NUMBER  
AND BL, 0FH  
MUL BASE  
ADD AX, BX  
INC DI  
LOOP L1
```

```
BRK: ;; CALCULATING THE SUM  
MOV CX, AX  
MOV AX, 00
```

```
L2: ADD AX, CX  
LOOP L2  
MOV SUM, AX  
;; NEW LINE CHARACTER  
MOV AH, 02H  
MOV DL, 0AH  
INT 21H
```

```
;; DISPLAYING IN HEX  
MOV AX, SUM  
MOV CX, 4
```

```
L4: XOR DX, DX  
MUL BASEH  
OR DL, 30H  
MOV BX, AX  
MOV AH, 02H  
INT 21H  
MOV AX, BX  
LOOP L4
```

```
;; CONVERTING TO DECIMAL  
MOV AX, SUM  
MOV CX, 00  
MOV BX, 10
```

```
L3: MOV DX, 00  
INC CX  
DIV BX  
CMP AX, 00  
PUSH DX  
JG L3
```

```
;; NEW LINE CHARACTER  
MOV AH, 02H  
MOV DL, 0AH  
INT 21H  
;; PRINTING IN DECIMAL
```

```
DIS: POP DX  
OR DX, 30H  
MOV AH, 02H  
INT 21H  
LOOP DIS
```

```
;; ENDING PROGRAM  
MOV AH, 4CH  
INT 21H  
MAIN ENDP
```

```
END MAIN
```