**;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**