



**Q1: Write a program to multiply 2 8-bit numbers stored at 2000h and 2001h.
Store the result at 2002H and 2003H**

```
LXI H, 0000H      ; Result will be in HL, initialized to 0
LXI D, 0000H      ; DE initialized to 0

LDA 2000H         ; Take 1st operand
ADI 00H           ; For Zero check
JZ Store          ; For Zero check
MOV E,A           ; DE = 1st operand

LDA 2001H         ; Take 2nd operand
ADI 00H           ; For Zero check
JZ Store          ; For Zero check
MOV C,A           ; C = 2nd operand

Back: DAD D        ; Add the 1st operand to HL, HL = HL + DE
DCR C             ; Decrement the 2nd operand
JNZ Back          ; Loop till C becomes 0

Store:SHLD 2002H   ; Store the result

HLT              ; End your program
```



Q2: Write a program to divide an 8-bit number stored at 2000h by another stored at 2001h. Store the result at 2002H (Q) and 2003H (R)

```
LDA 2001H      ; Take divisor in A
ADI 00H        ; For Zero check
JZ Exit        ; If Zero, simply exit the program
MOV C,A        ; C = divisor
MVI E,00H      ; E = 0 (this will be the quotient)
LDA 2000H      ; A = Dividend

Back: CMP C     ; Compare A and C by doing A-C
JC Next        ; If A < C then move out of the loop
SUB C          ; A ← A - C, actually do the subtraction
INR E          ; Increment Quotient
JMP Back       ; Loop back

Next: STA 2003H ; Store the remainder from A to 2003H
MOV A,E        ; Move Quotient from E to A
STA 2002H      ; Store the quotient from A to 2002H

Exit: HLT      ; End your program
```



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