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ORG 00H                ; Set the starting address of the program to 00H

; 16-Bit Subtraction
; First 16-bit number: 1234H (MSB: 12H, LSB: 34H)
; Second 16-bit number: 5678H (MSB: 56H, LSB: 78H)
ORG 00H                ; Set the starting address of the program to 00H

; First 16-bit number: 1234H (MSB: 12H, LSB: 34H)
; Second 16-bit number: 5678H (MSB: 56H, LSB: 78H)

MOV A, #34H            ; Load the LSB of the first 16-bit number (34H) into the
accumulator
MOV R0, #78H           ; Load the LSB of the second 16-bit number (78H) into
register R0
ADD A, R0              ; Add the contents of R0 (78H) to A (34H), storing the result
in A
MOV 50H, A             ; Store the result's LSB in RAM location 50H

MOV A, #12H            ; Load the MSB of the first 16-bit number (12H) into the
accumulator
MOV R1, #56H           ; Load the MSB of the second 16-bit number (56H) into
register R1
ADDC A, R1             ; Add the contents of R1 (56H) to A (12H) along with carry
from previous addition
MOV 51H, A             ; Store the result's MSB in RAM location 51H

END                    ; End of the program


MOV A, #34H            ; Load the LSB of the first 16-bit number into the
accumulator
MOV R0, #78H           ; Load the LSB of the second 16-bit number into register
R0
CLR C                  ; Clear the carry to prepare for subtraction
SUBB A, R0             ; Subtract R0 from A with borrow (A = 34H - 78H - carry)
MOV 50H, A             ; Store the result's LSB in RAM location 50H

MOV A, #12H            ; Load the MSB of the first 16-bit number into the
accumulator
MOV R1, #56H           ; Load the MSB of the second 16-bit number into register
R1
SUBB A, R1             ; Subtract R1 from A with borrow from previous operation
MOV 51H, A             ; Store the result's MSB in RAM location 51H

END                    ; End of the program

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