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#include <xc.inc>

first SET 1
last SET 20
count SET last - first + 1
i SET 0
baseAddress SET 0x00

PSECT code

; Write values from 1 to 20 into RAM locations 0x00 (from 0 decimal) to 0x13 (19 decimal)
REPT count
    MOVLW    first + i
    MOVWF    (baseAddress + i)
    i SET i + 1
ENDM

; data is from 0x00 to 0x13
; count is in 0x14
; result will go to 0x15 (21)

countAddress SET baseAddress + count
resultAddress SET countAddress + 1; 0x15

; Write the number of elements at location 0x14 (20 in decimal)
MOVLW count
MOVWF countAddress
LFSR 0, baseAddress ; write 0x00 to FSR0
MOVLW 0             ; clear the working register

ADDLOOP:
    ADDWF POSTINC0, 0    ; W += *ptr++
    DECFSZ countAddress; decrement the file register in countAddress and skip the next instruction if the result is zero
    GOTO ADDLOOP

    MOVWF resultAddress    ; put the result here
    GOTO $                 ; loop forever

END
```