CS 301 Lab 8

AddGt.s

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AddGt.s source code

```
    LDR R1, N    ; load size of array -
            ; a counter for how many elements are left to process

    LDR R2, POINTER    ; load base pointer of array

    MOV R0, #0         ; initialize accumulator to 0


LOOP
    LDR R3, [R2], #4    ; load value from array, increment array pointer to next word

    CMP R3, #5          ; check if val is greater than 5

    BGT  INCREMENT_SUMMATION
    B ITERATE


INCREMENT_SUMMATION
    ADD R0, R3
    B ITERATE


ITERATE
    SUBS R1, R1, #1     ; decrement word counter
    BGT LOOP           ; keep looping until counter is zero
    B STOP

STOP

    END
```
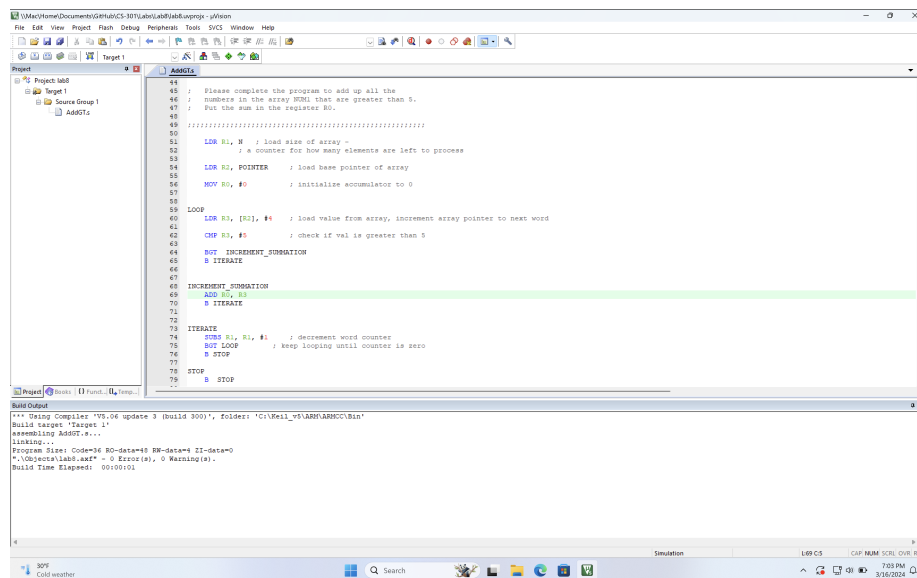
AddGt.s successful build

AddGt.s sum in R0

Register	Value
⊟ **Core**	
R0	0x0000003C
R1	0x00000000
R2	0x0800002C
R3	0x0000001E
R4	0x00000000
R5	0x00000000
R6	0x00000000
R7	0x00000000
R8	0x00000000
R9	0x00000000
R10	0x00000000
R11	0x00000000
R12	0x00000000
R13 (SP)	0x20001000
R14 (LR)	0xFFFFFFFF
R15 (PC)	0x0800004E
⊞ xPSR	0x61000000
⊞ Banked	
⊞ System	
⊟ Internal	
Mode	Thread
Privilege	Privileged
Stack	MSP
States	89
Sec	0.00000742