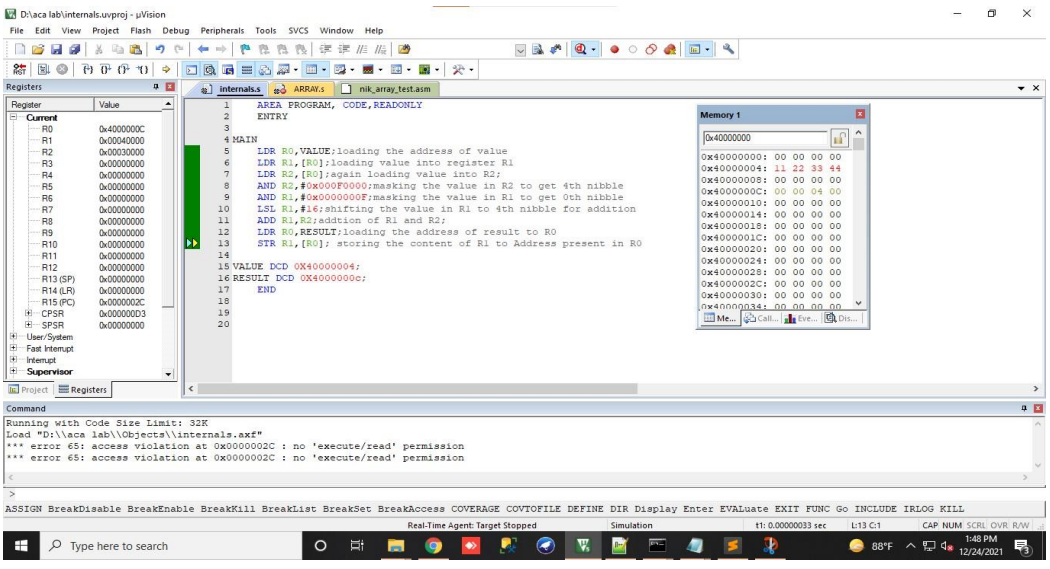
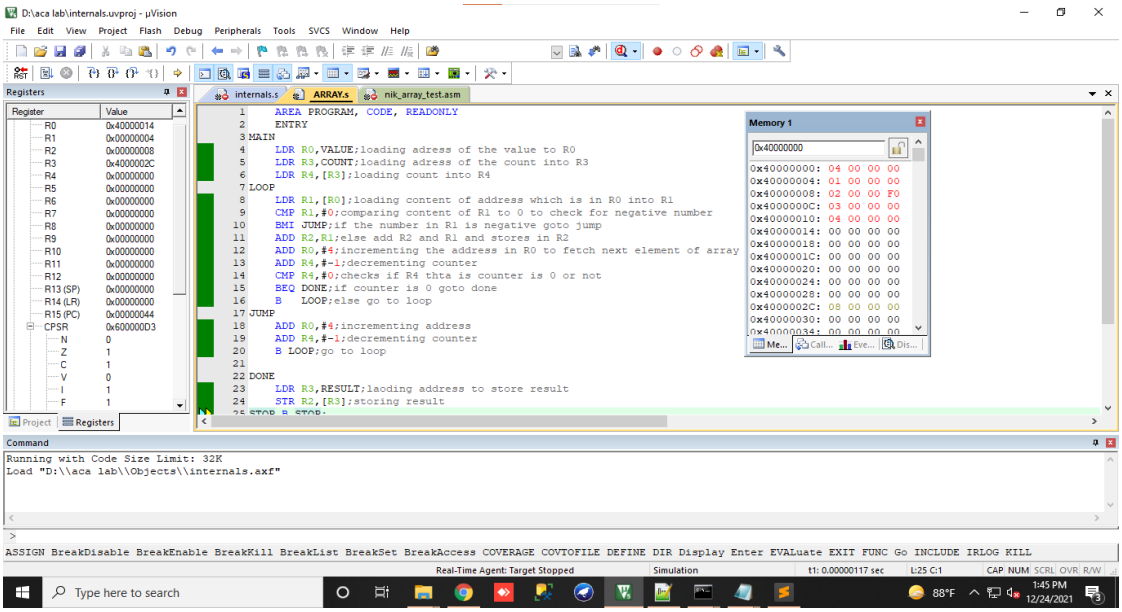
NAME: BHARATH P H

REG NO: 211039031

```
;Asm code to add nibble 4 and nibble 0;
        AREA PROGRAM, CODE,READONLY
        ENTRY

MAIN
        LDR R0,VALUE;loading the address of value
        LDR R1,[R0];loading value into register R1
        LDR R2,[R0];again loading value into R2;
        AND R2,#0x000F0000;masking the value in R2 to get 4th nibble
        AND R1,#0x0000000F;masking the value in R1 to get 0th nibble
        LSL R1,#16;shifting the value in R1 to 4th nibble for addition
        ADD R1,R2;addtion of R1 and R2;
        LDR R0,RESULT;loading the address of result to R0
        STR R1,[R0]; storing the content of R1 to Address present in R0

VALUE DCD 0X40000004;
RESULT DCD 0X4000000c;
        END
```



```
;asm code to add array of numbers if negative number found in array skip that element
AREA PROGRAM, CODE, READONLY
        ENTRY
MAIN
        LDR R0,VALUE;loading adress of the value to R0
        LDR R3,COUNT;loading adress of the count into R3
        LDR R4,[R3];loading count into R4
LOOP
        LDR R1,[R0];loading content of address which is in R0 into R1
        CMP R1,#0;comparing content of R1 to 0 to check for negative number
        BMI JUMP;if the number in R1 is negative goto jump
        ADD R2,R1;else add R2 and R1 and stores in R2
        ADD R0,#4;incrementing the address in R0 to fetch next element of array
        ADD R4,#-1;decrementing counter
        CMP R4,#0;checks if R4 thta is counter is 0 or not
        BEQ DONE;if counter is 0 goto done
        B       LOOP;else go to loop
JUMP
        ADD R0,#4;incrementing address
        ADD R4,#-1;decrementing counter
        B LOOP;go to loop

DONE
        LDR R3,RESULT;laoding address to store result
        STR R2,[R3];storing result
STOP B STOP;

VALUE DCD 0X40000004;
COUNT DCD 0X40000000;
RESULT DCD 0X4000002C;
        END
```


D:\aca lab\internals.uvproj - µVision
File Edit View Project Flash Debug Peripherals Tools SVCS Window Help
Registers
Register Value
R0 0x40000014
R1 0x00000004
R2 0x00000008
R3 0x4000002C
R4 0x00000000
R5 0x00000000
R6 0x00000000
R7 0x00000000
R8 0x00000000
R9 0x00000000
R10 0x00000000
R11 0x00000000
R12 0x00000000
R13 (SP) 0x00000000
R14 (LR) 0x00000000
R15 (PC) 0x00000044
CPSR 0x600000D3
N 0
Z 1
C 1
V 0
I 1
F 1
Project Registers
internals.s ARRAY.s nik_array_test.asm
1 AREA PROGRAM, CODE, READONLY
2 ENTRY
3 MAIN
4 LDR R0,VALUE;loading adress of the value to R0
5 LDR R3,COUNT;loading adress of the count into R3
6 LDR R4,[R3];loading count into R4
7 LOOP
8 LDR R1,[R0];loading content of address which is in R0 into R1
9 CMP R1,#0;comparing content of R1 to 0 to check for negative number
10 BMI JUMP;if the number in R1 is negative goto jump
11 ADD R2,R1;else add R2 and R1 and stores in R2
12 ADD R0,#4;incrementing the address in R0 to fetch next element of array
13 ADD R4,#-1;decrementing counter
14 CMP R4,#0;checks if R4 thta is counter is 0 or not
15 BEQ DONE;if counter is 0 goto done
16 B LOOP;else go to loop
17 JUMP
18 ADD R0,#4;incrementing address
19 ADD R4,#-1;decrementing counter
20 B LOOP;go to loop
21
22 DONE
23 LDR R3,RESULT;laoding address to store result
24 STR R2,[R3];storing result
Memory 1
0x40000000
0x40000000: 04 00 00 00
0x40000004: 01 00 00 00
0x40000008: 02 00 00 F0
0x4000000C: 03 00 00 00
0x40000010: 04 00 00 00
0x40000014: 00 00 00 00
0x40000018: 00 00 00 00
0x4000001C: 00 00 00 00
0x40000020: 00 00 00 00
0x40000024: 00 00 00 00
0x40000028: 00 00 00 00
0x4000002C: 08 00 00 00
0x40000030: 00 00 00 00
Me... Call... Eve... Dis...
Command
Running with Code Size Limit: 32K
Load "D:\\aca lab\\Objects\\internals.axf"
ASSIGN BreakDisable BreakEnable BreakKill BreakList BreakSet BreakAccess COVERAGE COVTOFILE DEFINE DIR Display Enter EVALuate EXIT FUNC Go INCLUDE IRLOG KILL
Real-Time Agent: Target Stopped
Simulation
t1: 0.00000117 sec
L:25 C:1
CAP NUM SCRL OVR R/W
Type here to search
88°F
1:45 PM
12/24/2021