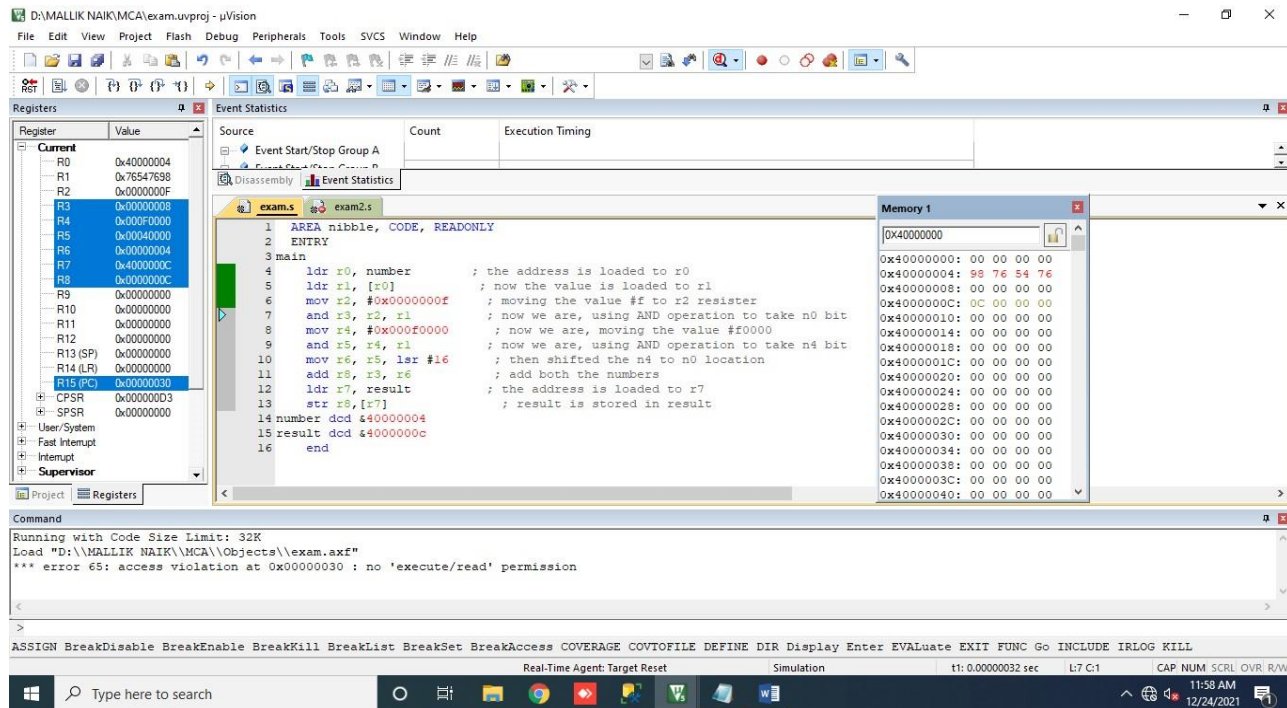NAME:- MALLIK THANU NAIK
ROLL NUMBER :- 211039038
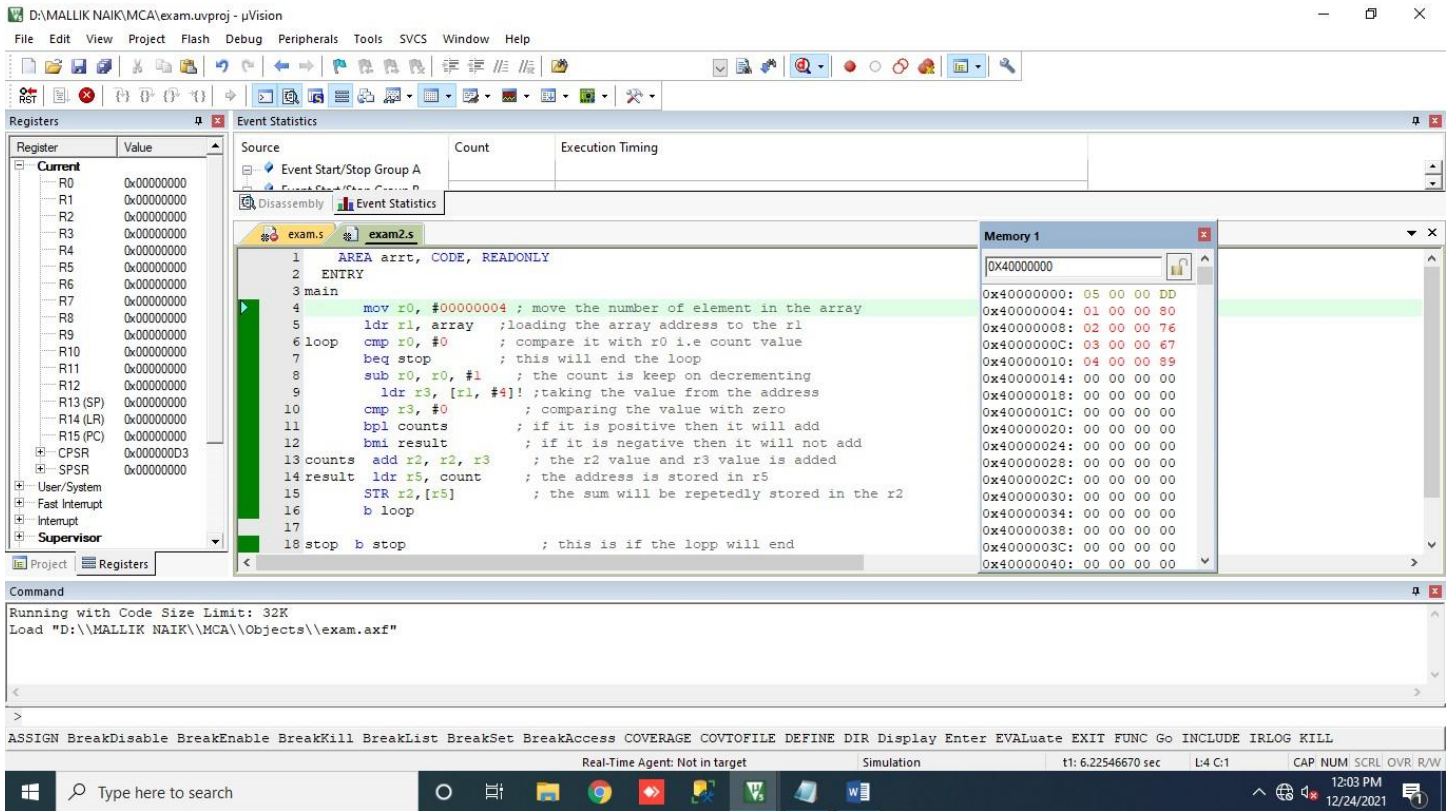1ST QUESTION

PROGRAM FOR THE FIRST ONE

AREA nibble, CODE, READONLY

ENTRY main

ldr r0, number   ; the address is loaded to r0   ldr r1, [r0]   ;

now the value is loaded to r1   mov r2, #0x0000000f   ; moving the value

#f to r2 resister   and r3, r2, r1   ; now we are, using AND

operation to take n0 bit   mov r4, #0x000f0000   ; now we are,

moving the value #f0000   and r5, r4, r1   ; now we are, using AND

operation to take n4 bit   mov r6, r5, lsr #16   ; then shifted the n4

to n0 location   add r8, r3, r6   ; add both the numbers   ldr r7,

result   ; the address is loaded to r7   str r8,[r7]   ; result is stored

in result

number dcd &40000004 result

dcd &4000000c

        end

2ND QUESTION

```
D:\MALLIK NAIK\MCA\exam.uvproj - µVision                                    —  □  ×
File  Edit  View  Project  Flash  Debug  Peripherals  Tools  SVCS  Window  Help
```

Event Statistics / Registers window screenshot with code:

```
      AREA arrt, CODE, READONLY
  2   ENTRY
  3 main
  4       mov r0, #00000004 ; move the number of element in the array
  5       ldr r1, array   ;loading the array address to the r1
  6 loop  cmp r0, #0     ; compare it with r0 i.e count value
  7       beq stop       ; this will end the loop
  8       sub r0, r0, #1   ; the count is keep on decrementing
  9        ldr r3, [r1, #4]! ;taking the value from the address
 10       cmp r3, #0      ; comparing the value with zero
 11       bpl counts     ; if it is positive then it will add
 12       bmi result      ; if it is negative then it will not add
 13 counts  add r2, r2, r3   ; the r2 value and r3 value is added
 14 result  ldr r5, count   ; the address is stored in r5
 15       STR r2,[r5]        ; the sum will be repetedly stored in the r2
 16       b loop
 17
 18 stop  b stop            ; this is if the lopp will end
```

Memory 1:
```
0X40000000
0x40000000: 05 00 00 DD
0x40000004: 01 00 00 80
0x40000008: 02 00 00 76
0x4000000C: 03 00 00 67
0x40000010: 04 00 00 89
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: 00 00 00 00
0x40000030: 00 00 00 00
0x40000034: 00 00 00 00
0x40000038: 00 00 00 00
0x4000003C: 00 00 00 00
0x40000040: 00 00 00 00
```

Command:
```
Running with Code Size Limit: 32K
Load "D:\\MALLIK NAIK\\MCA\\Objects\\exam.axf"
```

PROGRAM FOR THE SECOND ONE

AREA arrt, CODE, READONLY   ENTRY main   mov r0, #00000004 ;

move the number of element in the array   ldr r1, array   ;loading

the array address to the r1 loop   cmp r0, #0   ; compare it with r0 i.e

count value   beq stop   ; this will end the loop   sub r0, r0, #1

; the count is keep on decrementing   ldr r3, [r1, #4]! ;taking the

value from the address   cmp r3, #0   ; comparing the value

with zero   bpl counts   ; if it is positive then it will add   bmi

result   ; if it is negative then it will not add counts add r2, r2, r3   ;

the r2 value and r3 value is added result ldr r5, count   ; the address is

stored in r5

    STR r2,[r5]   ; the sum will be repetedly stored in the r2

          b loop

stop b stop   ; this is if the lopp will end array

dcd &40000000

count dcd &40000000

      end