```
Example 3.

$1 is the address of the beginning of an array of 32-bit integers.
$2 is the number of elements in the array.
Read element 5 of the array into $3, and return.
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MIPS Machine code:

              binary              |   hex    | location meaning
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                                  |          | ; load 5 into $5
00000000 00000000 00101000 00010100 | 00002814 | 00000000 lis $5
00000000 00000000 00000000 00000101 | 00000005 | 00000004 .word 5
                                  |          | ; load 4 into $4
00000000 00000000 00100000 00010100 | 00002014 | 00000008 lis $4
00000000 00000000 00000000 00000100 | 00000004 | 0000000c .word 4
                                  |          | ; quadruple $5
00000000 10100100 00000000 00011000 | 00a40018 | 00000010 mult $5, $4
00000000 00000000 00101000 00010010 | 00002812 | 00000014 mflo $5
                                  |          | ; $5 = $5 + $1
00000000 00100101 00101000 00100000 | 00252820 | 00000018 add $5, $5, $1
                                  |          | ; $3 = MEM[0 + $5]
10001100 10100011 00000000 00000000 | 8ca30000 | 0000001c lw $3, 0($5)
                                  |          | ; return to OS
00000011 11100000 00000000 00001000 | 03e00008 | 00000020 jr $31
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```

address in RAM

$$\$1 = 0x110$$
$$\$2 = 7$$

$$\$5 = \cancel{8}\ \cancel{(20)_{10}} \cancel{(0x14)} = 0x124$$
$$\$4 = 4$$