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**ENEE 350 Homework Set 7**  
 Programming Assignment 2  
 (Due: Class 17, Wed., Mar. 28, 2018)

Write, assemble and run successfully on the simulator a Mac-1 subroutine **minev(n,x)** that returns in the AC the address of the integer possessing the smallest even value (i.e., the farthest left value on the real line that is a multiple of 2, including zero) among the n integers in the array whose starting address is x. If there is more than one minimum even value in the array range, return the address of the one with the greatest address value. If there are no even values in the array range, return minus one which corresponds to unsigned 65535, a clearly out of range address in the 4096 word address space. Your subroutine should be tested with the main program shown below, which defines how the parameters are passed.

/main program	/continued from below halt
EXTRN minev	data    41
ans1    RES    1	7
ans2    RES    1	129
ans3    RES    1	3
n1        5	-133
n2        9	0
n3        8	-2
start    loco    4020	-29
swap                    /initialize sp	-6
loco    n1	347
push                    /push address n1	15
loco    data	-3
push                    /push array start address	-435
one      call    minev	-6
stod    ans1	END      start
insp    2	
loco    n2                /push address n2	
push	
loco    data	
add     (4)	
push                    /push array start address	
two      call    minev	
stod    ans2	
insp    2	
loco    n3                /push address n3	
push	
loco    data	
add     (6)	
push                    /push array start address	
three    call    minev	
stod    ans3	
insp    2	
halt	
/data array continues here but	
/ is shown in the above right hand column	

Hand in a copy of the main program symbolic assembly listing, the subroutine symbolic assembly listing, the contents of (macro) memory after “load main sub” (i.e., of main.abs) before execution of the program, and the contents of memory after execution of the program. Highlight and comment upon the final answers. Specify what values are contained in the addresses specified by ans1, ans2, and ans3.