

HOMework 4

CMPE 102, Assembly Language Programming, Çokgör

Total points towards grade: 5/100

Homework is submitted electronically on the Canvas. E-mail submissions will not be accepted. Assembly programming part must be submitted in text format.

Add comments to your code to explain your work. Work that is not commented will not earn full credit.

Use Keil uVision to test your assembly program.

Assignment:

Pass to a subroutine an array by reference (i.e. pass the address of the array), the size of the array, and a number. The subroutine should search for that number within the array elements and return the index of the array element if the matching number is found. If no matching number is found, then the subroutine should return -1.

For example: Assume the array is at address 0x20004000, the array size is 5, and the number you are looking for is 0xA. You pass the address of the array, the size of the array and the number you are looking for as arguments to the subroutine. The subroutine returns the index of the element that contains 0xA, or returns -1 if no 0xA is found in the array.

NOTE: You have to obey the ARM procedure call standards when passing arguments and returning values.

Reminder: The index of an array starts at zero.