

## Lab #2 activity – 412G

Extend your computer program by adding the following features:

- Add "Laboratory #2" menu option
- Add a submenu
- Add to the submenu the first option and implement its functionality
  - Create an array of `chars` with a size greater than 1 on the stack.
  - Initialize its elements.
  - Output the contents of the array using pointer arithmetic.
- Add the second option to the submenu
  - Create an array of `shorts` with a size greater than 1 in the heap.
  - Initialize its elements.
  - Output the contents of the array using pointer arithmetic.
- Add the third option to the submenu
  - Create a global array of `ints` `y` with a size greater than 1.
  - Initialize its elements.
  - Output the contents of the array.
- Add 4<sup>th</sup> option to the submenu(**optional, recommended**)
  - On a 32-bit unsigned variable initialized with `0xFFFFFFFF` perform the following operations:
    - Clear bit #0, #1 and bit #16.
    - Set bit #16
    - Flip (toggle) bit #31
    - Perform a right shift with 5.
    - Perform a left shift with 16.
    - Print all 32 bits.
    - Print the value of the variable in hexadecimal.

**Note:** For each lab activity you have to create a separated source file and its corresponding header file. At the end of the semester you should have a source tree similar to the following:

menu.h	lab1.c
menu.c	...
main.c	lab7.h
lab1.h	lab7.c