Lab 1

In this task you have to study and modify (according to the instructor guidelines) a simple program example with complex numbers (exploiting structure, structure array and some functions) to get familiar with basis of C++ programming style.

First convert code from example_in_c.c file to C++ style according to your instructor guidelines (create separate C++ project in Visual Studio). Modify program structure dividing it to three files: cmplx.h, cmplx.cpp and main.cpp.

After that, modify previously code by adding:

- function void Print( ), which prints complex number formatted as a+bi (this function should be a member of CMPLX structure);
- function void Sort_array (CMPLX *a, const int size) which sort given array of complex numbers according to their absolute value (you can use sorting formula from sorting_in_cpp.cpp file with necessary modifications)
- format the input and output of the program related to the example screen output below

Enter first complex number (C1): 1 1
Enter second complex number (C2): 2 3
Your first complex number is (C1): 1+1i
Your second complex number is (C2): 2+3i

Sum of C1 + C2: 3+4i
Abs of C1 + C2: 5

First array of complex numbers is (A1): 3+4i   1+3i   5-2i
Second array of complex numbers is (A2): 3+4i   1+3i   5-2i

Sum of A1 + A2: 6+8i   2+6i   10-4i
and abs(A1 + A2): 10   6.32456 10.7703
Sorted array (by abs): 2+6i   6+8i   10-4i
and abs values: 6.32456 10   10.7703