# Algorithm

## Assignment #3

Due: May-15 (Wed.) (before 11:59pm)


**Instruction.**

a.  You have 1 problem in this assignment.

b.  Submit your source code to iCampus (Do not include any executable file).
    Name your source code file "ID_A3_MySort.cpp".

c.  G++ compiler will be used to compile your submitted codes.

    Compile Command: "`g++ YOUR_SOURCE_CODE.cpp -O2 -std=c++11`"

d.  Your program will be tested on Ubuntu 16.04.

e.  You are not allowed to declare any global variable in your codes.

f.  You cannot use built-in sorting functions such as `std::sort()` or `qsort()`.

g.  You are now allowed to modify the skeleton code except the region denoted by YOUR PLAYGROUND.

h.  Any work that you turn in should be your own. Copy detection will be seriously performed.


## Problem #1. (Programming) My Sort (100 pts)

Implement a sorting algorithm on the provided skeleton code. Assume that the number of objects $N$ ranges $1,000 \leq N \leq 100,000,000$ and the objects are 32-bit integers larger than $-100,000,000$ but smaller than $100,000,000$.

Your submission will be evaluated based on the correctness and runtime. For each test case, you will not get any credit if your program produces a wrong sorting result.