Cse2421 **Lab 7 Assignment** November 17, 2017.

Project Name: Y86-64 Code for Bubble sort **Due: Thursday, November 30, 2017.**

Your task is to write program Sorting.ys in Y86-64 assembly language that performs bubble sort of long integers in an array.
Here is a C code for the function which has two parameters: a pointer (long *data) to an array of integers and a number (long count) of element in the array. The function sorts in ascending order elements of the array.

```
void bubble(long *data, long count)
{ long i, last;
 for (last = count-1; last > 0; last--)
  {
    for (i = 0; i < last; i++)
    if (data[i+1] < data[i])
     {
      /* Swap adjacent elements */
      long t = data[i+1];
      data[i+1] = data[i];
      data[i] = t;
     }
   }
}
```

Your Y86-64 code should have the init function and the main function besides the bubble function. main() function prepares arguments and calls bubble(). The array with integers to be sorted is a global and its integers can be arbitrarily initialized, while a number of integers to be sorted is given as a content of a local variable in main().

First compile your Sorting.ys using command: yas Sorting.ys. Once you do not have compilation errors, run your code using ssim simulator and check if your code works as it is suppose. In this phase, you may change contents of array and/or a number of its elements, (reassembly) and run (simulate) to test if your program is correct.

Submissions:

a. your source code in file Sorting.ys using command:

submit c2421ac lab7 Sorting.ys

b. a hard copy of your Sorting.yo file and the output of command "yis Sorting.yo", with explanations for contents of displayed registers and memory locations. For this hard copy, your program should be sorting at least 15 integers.