Assignment Objective: Build skills on C class creation and integration while adding to the latest list class implementation mergeSort and quickSort as described in class**.**

Requirements:

* Add all new functions at the bottom of the list.cpp file.
* Add the new function definitions to the appropriate places in the list.h file.
* Make a new entry in the Makefile to also build MSQS, utilizing the MSQSmain.cpp file.
* Add the following to your latest list class.
  + Private functions:
    - void merge(int \*array, int n, int \*tmp);
    - void mergeSort(int \*array, int n, int \*tmp);
    - int partition(int \*array, int p, int r);
    - void quickSort(int \*array, int p, int r);
  + Public functions:
    - void mergeSort();
    - void quickSort();
* Demonstrate that the new sorting functions work.
  + Run your program as follows:

make

./MSQS 10 > MSQSoutput.txt

./MSQS 300 >> MSQSoutput.txt

./MSQS 40000 >> MSQSoutput.txt

* + Compare your quadSortOutput.txt to the posted MSQScorrectOutput.txt file.
* Deliverables:
  + Into D2L, put a zip file containing the files: list.h, list.cpp, Makefile and MSQSoutput.txt.
  + Turned into class, a hardcopy of your list.h, list.cpp, and MSQSoutput.txt files, in that order.