problem set extra - 1

Data Structures C++ for C Coders

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Topics

- **start from lab03.cpp → sort.cpp**
- **use new, delete, nothrow, and assert**
- **use a command line argument and GetInt() in nowic.h**
  - using libnowic.a - a static library for getting user's input
  - -L../lib or –L./lib or –L../../lib
  - -lnowic, or lnowic_mac
- **use a default parameter;**
  - ex: void bubbleSort(int *list, int N, int comp(int, int) = ascending);
- **build a library libsort.a, sort.h**
- **use a function pointer to sort in either ascending or descending order**
- **use an array of function pointers for performance analysis**
  - add timing as in pset02sort.
- **Due: March 18 (Mon) 11:55**
- **Files to submit: sort.cpp, sort.h, libsort.a, sort functions(4) in zipped**

How to

step 1: start from lab03.cpp → sort.cpp
    get a copy of sort function files. set #if 0 for main() if any.
step 2: read input from user from a command line and interactively .
    new, delete, nothrow, and assert
step 3: use an array of function pointer and run four sort functions in a for-loop
    output execution time

[Note] don't go the next step unless you code above completely.

step 4: code ascending and descending comparison functions.
    set the ascending function as a default parameter in four sort functions.
step 5: create include/sort.h and use include guard #ifndef
    use #include "sort.h" in sort.cpp
    build an executable
step 6: Read idebtor/nowic/UsingStaticLib.md
    libsort.a using all four sort functions
    build an executable using lib/libsort.a and include/sort.h