

## An example of a class with overloading

Create a single C++ .h file, using my examples of sorting as follows:

- I. Create a class called "mysorts" that has 3 primary members:
  - A. Sort via insertion sort (for an array of int)
  - B. Sort via selection sort (for an array of double)
  - C. Sort via bubble sort (for an array of float)

The 3 members will all have the same function-names (you can pick that name)

Your class will have no public data. You may have whatever private data you need to for your members to share. Be sure to include the term "static" as part of the prototype for your 3 functions. E.g.;

```
void static mysort( int (&x)[ASIZE] );  
with any other parameters you need, of course.
```

Your class will not need any constructors or destructors.

Put the class AND ITS MEMBERS in this .h file.

- II. Create a program that #include's the header file (the above file) and defines 3 separate arrays: ints, doubles, floats.
  - A. #define the size of the arrays (one constant for the size of all 3) as 20 elements. Put that #define at the beginning of the header file. Be sure all array definitions use that name for the array size.
  - B. Read a file name: sortin.txt to get the 20 elements (there will be exactly 20 of them) and fill ALL 3 ARRAYS with the same values in the same order. The input file will contain 20 ints. Read them into the int array, then copy them as doubles into the double array and again into the float array as floats. You may have to use the c "casting" operation to do it.
  - C. Print the original array
  - D. Call sort for the array
  - E. Print the sorted array on one line with commas separating the items
  - F. Repeat steps C-E for the remaining 2 arrays

Notes:

1. Your header file will define THREE members, all named "sort". The difference will be their input parameters. Your arrays will be defined in your main program.