Programming project #1- Insertion Sort

Due Time: Jan 14th 11pm

Requirement

Pick a language between java and C/C++ and implement the insertion sort algorithm. Your program should run from the command line:

isort test.txt

where “isort” is the name of your program and “test.txt” is a file that contains a sequence of numbers separated with semicolon.

The output of your program should be a plain text file called “answer.txt” recording the right sequence of all the numbers.

As we are going to build upon this program, carefully choose the programming language and design your program.

Grading Criteria

The total of 100 points for this project is broken up into:

• 20 points for proper construction of data structures required in the program.

• 20 points for correctly handing the input and output files.

• 40 points for efficiently implementing the insertion sort algorithm.

• 20 points for compilation, structure, and documentation.

Within these criteria, your grade will depend on program structure, efficiency, and correct execution.

The structure of your code will be judged for quality of the comments, quality of the data structure design, and especially the logic of the implementation. The comments need not be extremely long: just explain clearly the purpose of each class and each function within each class.

Submission Guidelines

Your submission must include all your source code and a brief report as a README file. Your submission should NOT include any IDE-specific project files, any compiled files, or any executables. Every file should have your name in a comment line at the top. Your README file should have a brief description of your program design, the breakdown of the files, the compiler

you used, the platform you used, a summary of what you think works and fails in your program, and a short description of your data structure design.

You will submit your project on Moodle. You should submit a single zip or tar file containing your source code files and README file. You can submit your project multiple times; only the most recent project submission will be graded. The most recent project submission will also be used to compute late days, if any.

Final Warning

A project that does not follow the submission guidelines will receive a 10 point deduction. Proper submission is entirely your responsibility. Contact the TA if you have any doubts whatsoever about your submission. Do NOT submit your project via email.

Please observe the academic integrity guidelines in the syllabus, and submit your own work.