

CS380

Programming Assignment #1

Due Apr.-3 (Fri.) (before 11:59pm)

Difficulty: Easy

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Objective: Understand a compilation and basic structure of a simple OpenGL code.

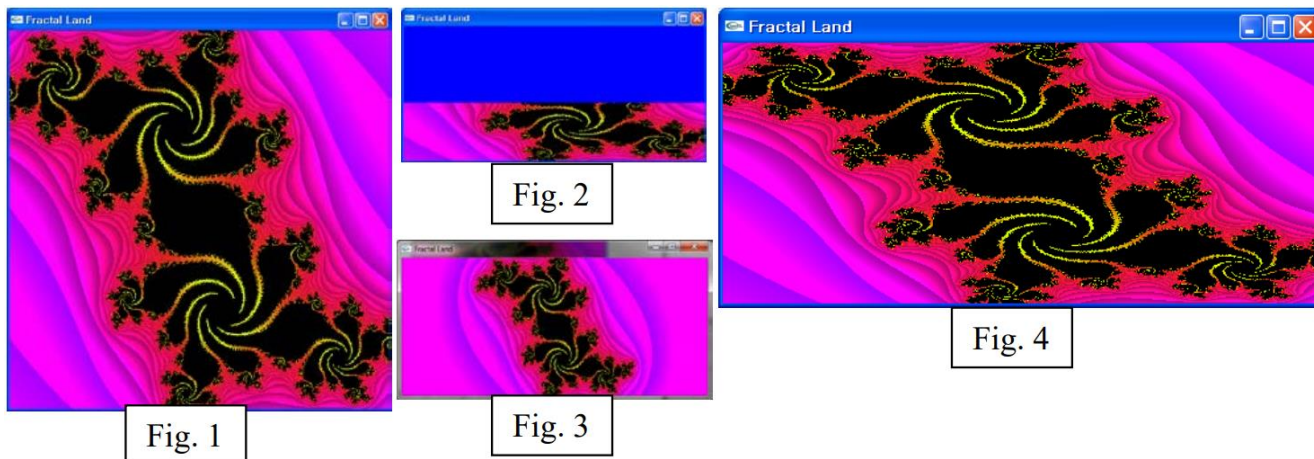
Developing environment: TA will test your code in Visual Studio 2017 in Microsoft Windows.

Prerequisites:

- 1) Compile and run the sample code of PA1.cpp.
- 2) Understand the basic OpenGL code structures, including header files, libraries, main, and various call-back functions.
- 3) Comment out the line 184-187 of reshape() function of the PA1.cpp and run again.

Problems:

- 1) Make the PA1 skeleton code to run properly when we resize the window. More specifically speaking, suppose that you have the original windows shown in Fig.1 when you started the program. Then, make the window to have half of the original height like the one shown in Fig. 2. As you can see, only half of the window is filled. But, we would like to utilize all the screen space, as shown in Fig. 4. To achieve this, adequately modify the display() function. There is an assumption on using the variable "delta." No other function needs to be modified. (10 pts)



- 2) What is the significant difference between the original reshape() function and the modified functions (reshape() and display()) in terms of the functionality? Describe each function(s) and explain the differences. (2.5 pts)
- 3) The original reshape() and modified reshape() functions serve different purposes. Given their convenience, which function do you prefer and why? (2.5 pts)

Deliveries:

- 1) Binary (*.exe) and source codes (*.cpp) of your solutions for Prob.1 (Fig. 4).
- 2) A report (*.pdf) has your edited codes and execution results for Prob.1 and answers for the Prob. 2 and 3. (Note: Include your execution results of Prob.1 like Fig.1, 2, and 4).
- 3) Submit your work in KLMS. You should submit a zip file that contains your binary(*.exe), source codes (*.cpp), and your report (*.pdf). (Note: Name the zip file to **studentID_PA1.zip** (e.g., 20150720_PA1.zip).)

Policies:

- 1) Everyone must turn in their own assignment. You can collaborate with others, but any work that you turn in should be your own.
- 2) **If your zip file name does not match the format (i.e., studentID_PA1.zip), we will deduct your score by 2 points.**