ps05_zihaod program description
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Features:
(1) This program realizes drawing/deleting circles with different and independent colors and radii.
(2) The process of drawing is completed using mouse movement and is shown in real time.
(3) Selection of colors is done easily through mouse-clicking on a triangle with color gradation in the window.

Instructions:
(1) Compile and run the program
(2) The default color is blue. Whenever you left click on the triangle with color gradation, it will change the color selected accordingly and show RGB information on the top left corner (even the words change the color accordingly).
(3) When you left click and hold at other parts in the window, the process of drawing circle begins. The color of circle is the one indicated by RGB information. The location you first click is the center, and the radius continuously changes and shows in real time as you hold the click and move the mouse.
(4) After you release the left-click, the circle you just drew stays in the window. You can delete circles using "BackSpace" button, which will erase circles in a reversed order.
(5) Push "ESC" anytime to terminate the program.

How the program satisfies the requirements:
(1) uses OpenGL animation using double-buffering. (10 pts)
Obviously done.
(2) runs the animation in a for or while loop until the user wants to terminate (for example, pressing ESC key, or if you write a game program, it is also ok to run the program until the game is over.) (20 pts)
Using while loop and "ESC" key to terminate.
(3) interacts with user using mouse or keyboard (20 pts)
Using mouse to draw circles and to choose color.
(4) uses at least one of the three features of OpenGL explained in class: color gradation, line stipple, or alpha blending. (10 pts)
Using color gradation for color selection.
(5) uses at least two types of OpenGL primitives from GL_POINTS, GL_LINES, GL_LINE_STRIP, GL_LINE_LOOP, GL_TRIANGLES, GL_TRIANGLE_STRIP, GL_TRIANGLE_FAN, GL_QUADS, GL_QUAD_STRIP, and GL_POLYGON. (10 pts)
Using GL_TRIANGLES for triangle with color gradation and GL_POLYGON for circles.

(6) uses OpenGL text (10 pts)
It's on the top-left corner of window.
(7) uses at least one of the following. (20 pts)
math library function, shuffling, sorting, state transition, numerical integration using Euler's method.

Using pow and other functions in math library, state transition in controlling animation and Euler's method for circle drawing.