

Project 1

CS 420

Exercise 3.23, enhancing the Canvas program. The project is worth 100 points. Extend the capabilities of the Canvas program by completing the eight parts below. Each part is worth 12.5 points.

1. Add a polyline (multi-segment line) drawing capability. Create a suitable icon. Left clicking this icon picks the polyline option. Subsequent left clicks pick successive segment endpoints until a middle click completes the polyline.
2. Add a circle drawing capability. After left clicking the circle icon, the next two left clicks pick the center and a point on the circle, respectively, following which the circle is drawn.
3. Add a regular (equal-sided) hexagon drawing capability. After left clicking the hexagon icon, the next two left clicks pick the center and a vertex, respectively, following which the hexagon is drawn.
4. For the existing line segment and rectangle options, as well as for the new polyline, circle and hexagon options, use mouse motion tracking to allow the user to see the newly-created primitive change in real-time as the mouse moves, before it is saved with a final click.
5. Add functionality to input text from the keyboard.
6. Give options for the grid size in the pop-up menu.
7. Add color options through the pop-up menu.
8. Add an outlined/filled option through the pop-up menu.