

Assignment 1: Static and dynamic logo drawing

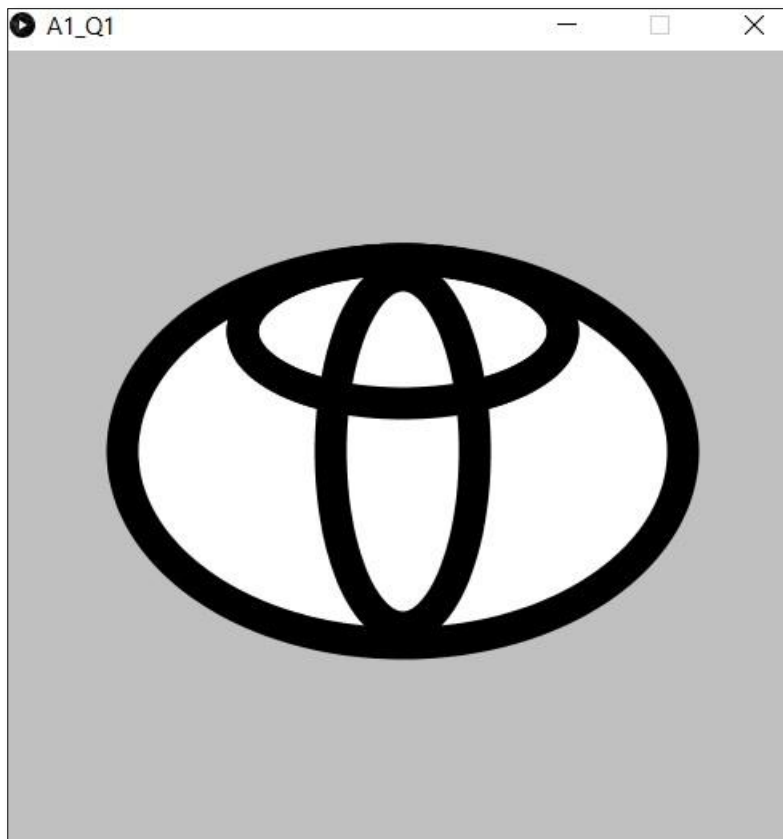
DUE DATE: JUNE 7TH, 2023 AT 11:55PM

Notes:

- Name your sketches using your name, the assignment number, and the question number, *exactly* as in this example: `LastnameFirstnameA1Q1`.
- Your program for each question must run upon download to receive any marks.
- Submit one PDE file for each question.
- Assignments must follow the programming standards document published on the course website on Moodle.
- These assignments are your chance to learn the material for the exams. *Code your assignments independently.* We review and compare all submitted assignments to each other, and pursue academic dishonestly vigorously.

Question 1:

The aim of this question is building a static Toyota logo in the middle of a canvas that has 500x500 size. The logo consists of 3 ellipses like the figure below:



Note that size and the places of the ellipses should be selected properly that the output looks like figure above.

Question 2:

This question has two parts:

- 1) The logo that was built in question 1 should be placed on the tip of the mouse cursor. It means that whenever the user moves the mouse pointer, the logo should be move on the tips of the mouse pointer.
- 2) In this part, when the user clicks on the mouse, the logo should be placed on the position that the user clicked. After click, the logo should not be moved on the tips of the mouse point and should stay still on the position that the mouse was clicked.

For better understanding the desired output, a video is uploaded with the assignment. You can watch that video and pay attention to the events that happened in every moment.

Hint: In order to answer this question, you may need to use functions like `noFill()` and `noLoop()`.

Question 3:

This question is similar to question 2 but it is a bit more challenging. In this question, you have to change the code that you have written so far in the way that when the mouse is getting farther than the center of the canvas, the logo gets bigger and when the mouse is getting closer to the center of the canvas, the logo gets smaller. You have to be aware that the thickness of the logo's boundary line should change with the size of the logo appropriately. It means that when the logo gets smaller, the boundary lines should be thinner than the situation that the mouse is getting farther than the center of the canvas. Also, like what you did in Question 2, when the user clicks on the mouse, the logo should stay still and it should not move around the canvas anymore.

In order to help you to understand the desired output, please watch the video that is related to Question 3 and it is located in the folder where the assignment was uploaded on the Moodle.

Assignment 3 Marking Guide

Question 1:

- The ellipses are drawing in appropriate dimensions (4)
- The logo is located exactly in the middle of the canvas (4)
- The fill colour and the boundaries thicknesses are selected properly (4)
- The two horizontal and vertical ellipses are drawn properly on top of each other (4) □
For all the parameters in the code either constants or variables are used (4)

Question 2:

- The program is responsive to the mouse movement (4)
- The logo and its parts are moving properly by mouse movement (4)
- When the mouse is clicked, the logo stays still on the position of the click (4)

Question 3:

- The distance of the mouse position from the canvas center is calculated properly (4)
- The program is responsive to mouse pointer position rather than the canvas center (4)
- The logo is scaled properly when the mouse is getting close and far from the center of the canvas (4)
- The logo stays still when the mouse is clicked on any part of the canvas (4)
- The thickness of the logos boundary is changing compare to the scale of the logo in a way that the details of the logo are clearly visible (2)

Grade: /50