

Lab5: Dynamic Styler

In this assignment, you will create a dynamic javascript enabled styling tool which enables the user to change some CSS properties of a given HTML element, interactively. The goal is for you to practice using HTML DOM in javascript and to change CSS properties of HTML elements through javascript.

Assignment Description

This assignment has three major components. HTML page, CSS rules and the javascript code. Each of these need to be in a separate file and the css and javascript files need to be linked to the HTML file.

Box Size:
Width: px Height: px

Box Border:
Border Width: px
Border Color:
Border Style:

Box Background Color:
Background color:



The HTML page should look similar to the screenshot provided above. When loaded for the first time, the page consists of a controls section and a plain rectangle which is 200px wide and 200px high. The rectangle has a 1px border on all sides. The controls section can be divided in three parts. Each part includes some controls that let the user change a property of the rectangle. The first section deals with the size(width and height) of the rectangle. It should include 2 text boxes to get the input values for width and height of the rectangle and a button. The second section enables the user to change the border properties of the rectangle. It should

include a text box to input the new value for the border size in pixels and a button which if clicked, will apply the new border size. Besides, in this section we should have 3 buttons named GREEN, RED and ORANGE which would change the color of the border if clicked. Also we should have 3 more buttons called SOLID, DOTTED and DASHED which would change the style of the border accordingly. In the last part of the controls section, you should let the user control the background color of the rectangle by providing 3 buttons called GREEN, RED and ORANGE which would change the background color of the rectangle if clicked.

The controls section should be centered on the page and the rectangle should appear right under the controls section with a 50px space between them. Note that, under no circumstances, should the rectangle overlap with the controls section, if the user changes the size of the rectangle, using the controls.

In terms of control functionality, when the user enters the new width and height and clicks the "Set Width/Height" button, the size of the rectangle should change to reflect the changes. You can assume that the input values are always valid pixel values. No error checking needed here. Similarly, when a new border width value is entered in the corresponding text box and the "Set Border Size" button is clicked, the border size of the rectangle should be changed to the new value.

The functionality of the rest of the buttons on the page should be clear. Any time the user clicks on a colored button, the border OR background color of the rectangle needs to be changed depending on the context. Also, clicking on border style buttons should instantly change the style of the border lines of the rectangle.

You can find another screenshot of the same page after changing the rectangle size to 500x100, with a 5px dotted red border and an orange background, on the next page.

Grading

This assignment has a total of 110 points of which, 10 points is a bonus. Basically, if you complete all of the sections mentioned below and they function and look as expected, then you'll get the full credit for this assignment(100 points) plus 10 points which will be counted towards your final grade in this course. Here is a breakdown of the points for each section of this assignment.

HTML page structure (15 points)

This includes everything that should go into your HTML file, including the correct use of HTML elements on the page and linking CSS and Javascript files to the HTML page. Your HTML page should look very similar to the screenshot provided.

CSS Rules (15 points)

This includes the correct use of CSS selectors and rules, so that your page looks very similar to the examples provided. Make sure the positioning and visual styling of the elements are as shown in the screenshots.

Set Width/Height (20 points)

When the user enters values in the width and height boxes and clicks on the button, changes should be instantly reflected on the rectangle at the bottom of the page. Please note that there is no maximum size for the rectangle and that the rectangle should never overlap with controls box.

Set Border Size (10 points)

When the user enters a value in the border width text box and clicks on the 'Set Border Size' button, the border size of the rectangle should change to the given value in pixels.

Change Border Color (15 points)

If any of the GREEN, RED or ORANGE buttons in this section are clicked, the border color of the rectangle should change accordingly.

Change Border Style (20 points)

If any of the SOLID, DOTTED or DASHED buttons in this section are clicked, the border style of the rectangle should change accordingly.

Change Background Color (15 points)

If any of the GREEN, RED or ORANGE buttons in this section are clicked, the background color of the rectangle should change accordingly.