



University  
of Windsor

School of Computer Science  
<https://cs.uwindsor.ca>

COMP-2707  
Advanced Web Design  
Fall 2023

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Oct 30th

### Lab 3 – Graphics and Color, Page Layout, and Site Navigation

**Goals:** In this lab you need to read the 3 above chapters and answer the following questions.

Points	Submission	Due date
5	Write your answers in this file, save it as a .pdf and submit it on or before the due date.	Monday Oct 30

#### Part 1: Graphics and Color [2 marks]

Create a table that compares the images formats: GIF, JPG, PNG and SVG. In the comparison you need to discuss the following 4 features for each format.

	GIF	JPG	PNG	SVG
<b>Compression and file size.</b>	no color information is discarded when the image is compressed	The higher the compression, the lower the image quality	lossless format compresses bit images to smaller file sizes than GIF	generally small and efficient, especially for simple or geometric graphics.
<b>Transparency support.</b>	Yes	No	Yes	Yes
<b>Color depth: how many colors are supported.</b>	The color depth of GIF is 8-bit, no more than 256 colors	JPGs are 24-bit RGB images that allow millions of colors	PNG images can have a 32-bit color depth with alpha channel is added	no predefined limit of colors or shades that can be used



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<b>Scalability and quality: what happens if we resize the image.</b>	reducing the image size significantly can lead to a loss of detail  enlarging the image size can lead to a pixelated or blocky appearance	significant reductions can result in a loss of detail and a decrease in image quality  enlarging a JPEG image often leads to visible pixelation	retains its quality, and you can reduce its dimensions without a significant loss of detail or clarity.  making it larger, can lead to quality loss, it can appear pixelated or blurry, especially if the original image has a lower resolution	No loss of detail since SVG is made up of mathematical definitions of shapes, not pixels
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## Part 2: Page layout and site navigation [3 marks]

Consider the following HTML code:

```
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>Simple Web Page</title>
  <style>
    /* Add some basic CSS styles for the header and navbar */
    header {
      background-color: #333;
      color: #fff;
      ...
      padding: 10px;}
    nav {
      background-color: #444;
      padding: 10px;
      ...}
```



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```
    nav a {
        color: #fff;
        text-decoration: none;
        margin: 0 10px;
        display: block;}
    nav a:hover {...}
    p {padding: 20px;}
</style>
</head>
<body>
    <header>
        <h1>Welcome to My Website</h1>
    </header>

    <nav>
        <a href="#">Home</a>
        <a href="#">About</a>
        <a href="#">Contact</a>
    </nav>
    <main>
        <p>This is a simple web page with a header, a paragraph, and a
        navigation bar with three links. You can replace this text and customize the
        links as needed for your webpage. </p>
    </main>
</body>
</html>
```

For each of the questions below, state the CSS property that should be added or removed, update the code accordingly, take a screenshot of the webpage after each update, and include it with the answer. For adding a property, add the required line of code whenever you see a highlighted 3 dots (...).

- a. Which CSS property should be added to both the header and the navbar so that the text in these elements get aligned to the center of the page?

**text-align: center;**

- b. Which CSS property should be deleted to make the links in the navbar displayed inline or horizontal?

**Remove display: block;**



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- c. Which CSS property should be added so that the navbar links appear underlined when the mouse hovers over them?

**Under nav a:hover add text-decoration: underline;**