

2.1 Create a simple web page using HTML and CSS that includes a header, navigation bar, main content, and footer.

```
 1  (html) {
 2    head {
 3      title{Single Web Page Layout::title}
 4      meta{
 5        /* Reset and base */
 6        /* Box-sizing: border-box; margin: 0; padding: 0; */
 7        font-family: system-ui, -apple-system, "Segoe UI", Roboto, "Helvetica Neue", Arial, sans-serif; line-height: 1.5; color: #2e3436;
 8      }
 9      body { display: flex; flex-direction: column; min-height: 100vh; }
10
11      /* Header */
12      header { background: linear-gradient(to deg, #2e3436, #d5eaf7); color: #eef3f9; padding: 1rem 1.25rem; }
13      .brand { display: flex; align-items: center; gap: 0.5rem; }
14      .brand h1 { font-size: 1.5rem; letter-spacing: -0.05em; }
15
16      /* Navigation */
17      nav { margin-top: 0.5rem; }
18      .nav-list { display: flex; gap: 0.5rem; list-style: none; flex-wrap: wrap; }
19      .nav-list a {
20        display: inline-block;
21        padding: 0.4rem 0.75rem;
22        color: #eef3f9;
23        text-decoration: none;
24        border-radius: 0.5px;
25        background: #d5eaf7;
26        transition: background 10ms, transform 10ms;
27      }
28      .nav-list a:hover { background: #d5eaf7; transform: translate(-2px); }
29
30      /* Main content */
31      main { flex: 1; padding: 1rem 1.25rem; max-width: 1000px; margin: 0 auto; width: 100%; }
```

```
grid { display: grid; grid-template-columns: 1fr 1fr; gap: 1.2rem; align-items: center; }
grid & background { #FFF; border-radius: 10px; padding: 1rem; box-shadow: 0 0 10px #000; }
grid & border { 1px solid #000; }

/* Footer */
footer { background: #FFF; color: #000; padding: 1rem 0; text-align: center; font-size: 0.9em; }

/* Responsive */
media (max-width: 100px) {
  grid { grid-template-columns: 1fr; }
  .nav-item { grid-column: 1; }
}

header {
  width: 100px;
  height: 100px;
  background-color: #FFF;
  border-radius: 50%; overflow: hidden;
  position: relative;
  margin-bottom: 10px;
}
header::before {
  content: '';
  width: 100px;
  height: 100px;
  background-color: #FFF;
  border-radius: 50%; border: 1px solid #000;
  position: absolute;
  left: -10px;
  top: -10px;
  z-index: -1;
}
header::after {
  content: '';
  width: 100px;
  height: 100px;
  background-color: #FFF;
  border-radius: 50%; border: 1px solid #000;
  position: absolute;
  right: -10px;
  bottom: -10px;
  z-index: -1;
}
header h1 {
  margin: 0;
  font-size: 1.2em;
  font-weight: bold;
  color: #000;
}
header p {
  margin: 0;
  font-size: 0.8em;
  color: #000;
}

nav a {
  color: inherit;
  text-decoration: none;
  font-size: 0.8em;
  font-weight: bold;
}
nav a:hover {
  color: #000;
}
```

2.1 Create a simple web page using HTML and CSS that includes a header, navigation bar, main content, and footer.

```
<div>
  <div class="grid">
    <section class="card" id="home">
      <h2>Welcome!</h2>
      <p>E-LIBRARY makes learning and reading easier by providing a digital, easily accessible collection of knowledge and resources.</p>
      <h3 id="about">About</h3>
      <p>A GROUP OF STUDENTS EFFORTS</p>
      <sections>
        <div class="card" id="services">
          <h4>Services</h4>
          <ul>
            <li>Quick links</li>
            <li>Recent posts</li>
            <li>Contact info</li>
          </ul>
        </div>
        <div>
          <img alt="Logo of E-LIBRARY" data-bbox="100 100 150 150"/>
        </div>
      </sections>
      <div class="card" style="margin-top:1.2rem;" id="contact">
        <h4>Contact</h4>
        <p>CONTACT: E-LIBRARY@ELIB.BORO.GOV</p>
        <p>+91 9876543210</p>
      </div>
    </section>
    <div><strong>E-LIBRARY</strong> 2024 - Built with HTML and CSS</div>
  </div>
</div>
```

HTML + CSS



Rendered Web Page

The rendered web page displays the following structure:

- Header:** E-LIBRARY
- Navigation Bar:** Home, About, Services, Contact
- Main Content Area:**
 - Welcome:** E-LIBRARY makes learning and reading easier by providing a digital, easily accessible collection of knowledge and resources.
 - About:** A GROUP OF STUDENTS EFFORTS
 - Contact:** CONTACT: E-LIBRARY@ELIB.BORO.GOV, +91 9876543210
- Sidebar:**
 - Quick links
 - Recent posts
 - Contact info
- Footer:** © E-LIBRARY 2024 — Built with HTML and CSS

2.2 Design a card layout using div elements to demonstrate the box model.

```
LABASSIGN2.HTML
F:\NURKISHKUMAR\DESKTOP\LABASSIGN2.HTML
LABASSIGN2.HTML

2 <head>
3   <title>CSS Box Model Card</title>
4 </head>
5 <body>
6   <div>
7     <h1>NOTICE</h1>
8     <p>This is to inform that on 22/11/2025 will be submission of lab assignment</p>
9   </div>
10 </body>
11 </html>
```

HTML + CSS



Rendered Web Page

NOTICE

This is to inform that on 22/11/2025 will be submission of lab assignment.

2.3 Create a responsive webpage using CSS media queries that adjusts layout and background colors for mobile (1 column), tablet (2 columns), and large screens (3 columns).

```
1 <head>
2   <title>Responsive Design with Media Queries</title>
3 </head>
4 <body>
5   /* Base styles (Mobile First) */
6   body {
7     margin: 0;
8     font-family: Arial, sans-serif;
9     background-color: #f0f0f0; /* Mobile: light pink */
10  }
11  .container {
12    display: grid;
13    grid-template-columns: 1fr; /* Mobile: 1 column */
14    gap: 10px;
15    padding: 20px;
16  }
17  .box {
18    background-color: white;
19    padding: 10px;
20    border: 1px solid black;
21    text-align: center;
22    font-size: 0.9em;
23    font-weight: bold;
24    border-radius: 10px;
25  }
26  /* Tablet: 2 columns */
27  @media (min-width: 600px) and (max-width: 960px) {
28    body {
29      background-color: #e0ffe0; /* Tablet: light green */
30    }
31    .container {
32      grid-template-columns: repeat(2, 1fr);
33    }
34  }
35  /* Large screen: 3 columns */
36  @media (min-width: 960px) {
37    body {
38      background-color: #e0ffe0; /* Large screen: light blue */
39    }
40    .container {
41      grid-template-columns: repeat(3, 1fr);
42    }
43  }
44  </body>
45 </html>
```

Desktop View (Large Screens)



This section shows responsive behavior created with CSS media queries.

The layout starts with a single-column mobile design and expands to two columns

2.3)

Tablet View (Two Column Layout)

The screenshot shows a tablet view with a resolution of 620x1100 pixels. The page content is organized into two columns. The left column contains the text 'HELLO', 'TO', and 'CONTACT'. The right column contains 'WELCOME', 'E-LIBRARY', and 'SUBS-LIB.ORG'. The background of the entire page is a uniform light green color.

Mobile View (Single Column Layout)

The screenshot shows a mobile view with a resolution of 360x740 pixels. The page content is presented in a single vertical column. All six items ('HELLO', 'WELCOME', 'TO', 'E-LIBRARY', 'CONTACT', 'SUBS-LIB.ORG') are stacked one below the other. The background of the entire page is a uniform pink color.

Background colors also change at each breakpoint, making the transitions easy to observe.

2.4 Create an animated button using CSS with smooth hover color change and size increase.

```
1  <head>
2    <title>Animated Button</title>
3  </head>
4  <body>
5    <h1>
6      <button type="button">#000000</button>
7      <button type="button">#008080</button>
8      <button type="button">#00FFFF</button>
9      <button type="button">#00008B</button>
10     <button type="button">#800000</button>
11     <button type="button">#800080</button>
12     <button type="button">#808080</button>
13     <button type="button">#800000 2px 2px 2px 2px #000000</button>
14   </h1>
15   <body>
16     margin: 0;
17     min-height: 100vh;
18     display: flex;
19     align-items: center;
20     justify-content: center;
21     font-family: system-ui, Segoe UI, Roboto, Arial;
22     background: linear-gradient(135deg, #FF00FF, #00FFFF);
23   </body>
24   <button>
25     display: inline-block;
26     background: var(--btn-bg);
27     color: var(--btn-color);
28     padding: var(--btn-padding);
29     border-radius: var(--btn-radius);
30     border: none;
31     cursor: pointer;
32     font-size: 1em;
33     font-weight: 600;
34     text-decoration: none;
35     box-shadow: var(--shadow);
36   </button>
37 </html>
```

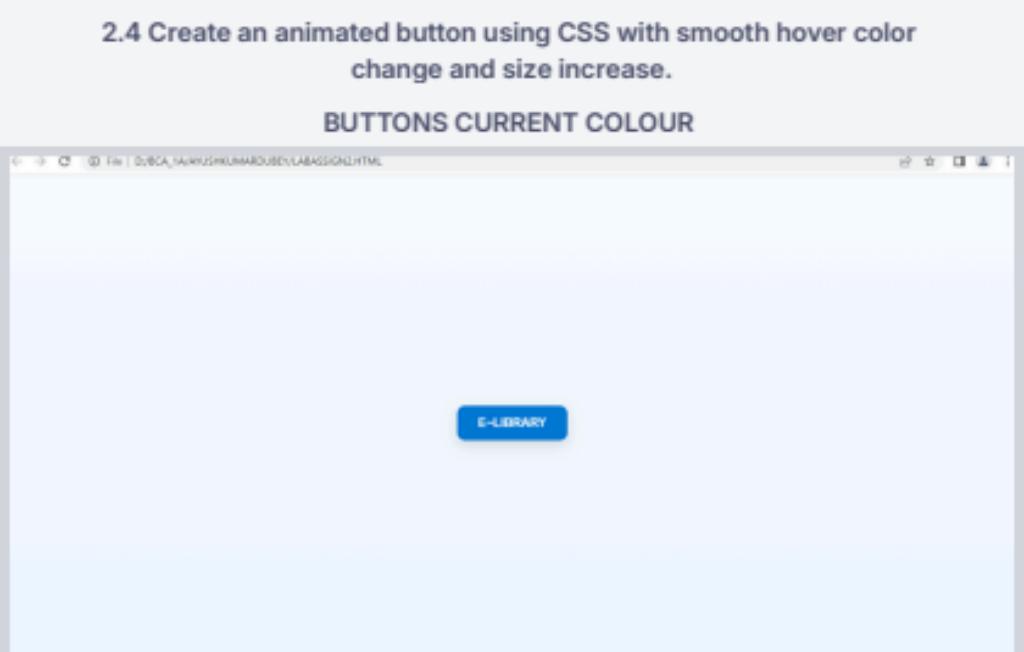
Hover State Showing Color

```
1  <head>
2    <title>Animated Button</title>
3  </head>
4  <body>
5    <button type="button">#000000</button>
6    <button type="button">#008080</button>
7    <button type="button">#00FFFF</button>
8    <button type="button">#00008B</button>
9    <button type="button">#800000</button>
10   <button type="button">#800080</button>
11   <button type="button">#808080</button>
12   <button type="button">#800000 2px 2px 2px 2px #000000</button>
13 </body>
14 <style>
15   /* Hover state: color change and scale up */
16   .interactive,
17   .interactive:visible {
18     background: var(--btn-hover-bg);
19     transform: scale(1.05);
20     transition: background-color var(--transition-time) ease,
21                 transform var(--transition-time) cubic-bezier(.2,-.1,.7,.1),
22                 box-shadow var(--transition-time) ease;
23     will-change: transform, background-color;
24   }
25   /* Active state: slightly press down */
26   .interactive {
27     transform: scale(0.95);
28     box-shadow: 0 10px 20px 0 rgba(0,0,0,0.15);
29     outline: none;
30   }
31   /* Respect user preference for reduced motion */
32   @media (prefers-reduced-motion: reduce) {
33     .interactive {
34       transition: none;
35     }
36   }
37 </style>
38 </head>
39 <body>
40   <button class="btn" type="button">#000000</button>
41 </body>
```

Demonstrates an animated button created with CSS, featuring smooth hover transitions, color change, and scale-up effects.

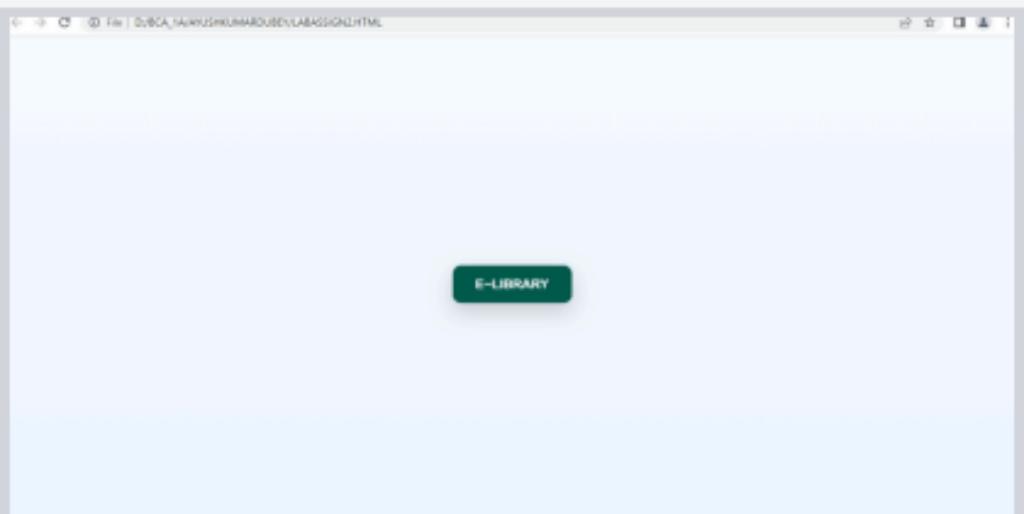
2.4 Create an animated button using CSS with smooth hover color change and size increase.

BUTTONS CURRENT COLOUR



E-LIBRARY

Hover State – Color and Size Change



E-LIBRARY

Demonstrates an animated button created with CSS, featuring smooth hover transitions, color change, and scale-up effects.