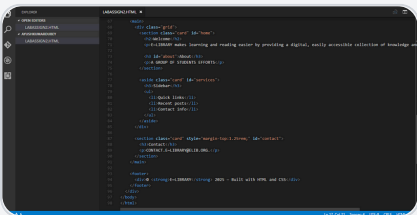




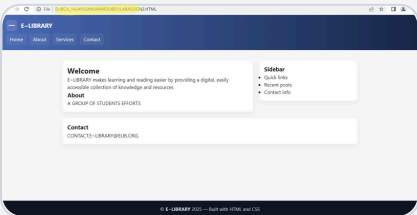
**2.1 Create a simple web page using HTML and CSS that includes a header, navigation bar, main content, and footer.**



HTML + CSS



Rendered Web Page



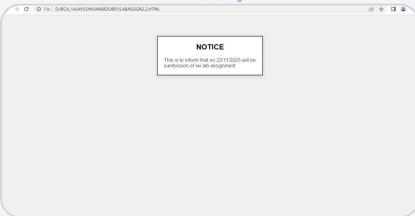
## 2.2 Design a card layout using div elements to demonstrate the box model.

```
1 LABASSIGN2.HTML
2
3 <!--CSS Box Model Card-->
4 <title>
5 </title>
6
7 body {
8     background-color: #f0f0f0;
9     font-family: Arial, sans-serif;
10    padding: 40px;
11 }
12
13 .card {
14     width: 300px;
15     margin: 20px auto; /* margin: space outside the box */
16     padding: 20px; /* padding: space inside the box */
17     border: 2px solid #000; /* border: edge of the box */
18     background-color: #fff;
19     box-shadow: 0 4px 8px #000; /* box-shadow */
20 }
21
22 .card h2 {
23     margin-top: 0;
24     font-size: 1.5em;
25 }
26
27 .card p {
28     margin-bottom: 0;
29     color: #000;
30 }
31
32 </body>
33 </html>
34
35 <!--CSS Box Model Card-->
36 <title>
37 </title>
38
39 body {
40     background-color: #f0f0f0;
41     font-family: Arial, sans-serif;
42     padding: 40px;
43 }
44
45 .card {
46     width: 300px;
47     margin: 20px auto; /* margin: space outside the box */
48     padding: 20px; /* padding: space inside the box */
49     border: 2px solid #000; /* border: edge of the box */
50     background-color: #fff;
51     box-shadow: 0 4px 8px #000; /* box-shadow */
52 }
53
54 .card h2 {
55     margin-top: 0;
56     font-size: 1.5em;
57 }
58
59 .card p {
60     margin-bottom: 0;
61     color: #000;
62 }
63
64 </body>
65 </html>
```

HTML + CSS



Rendered Web Page

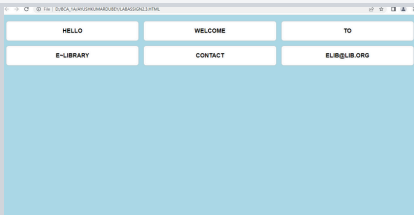


## 2.3 Create a responsive webpage using CSS media queries that adjusts layout and background colors for mobile (1 column), tablet (2 columns), and large screens (3 columns).

```
1 <!-- CSS -->
2 <head>
3 <title>Responsive Design with Media Queries</title>
4 <style>
5 /* Base styles (Mobile first) */
6 body {
7   margin: 0;
8   font-family: Arial, sans-serif;
9   background-color: #e0f2f1; /* 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: #ffffff;
19   padding: 20px;
20   border: 1px solid #ccc;
21   text-align: center;
22   font-size: 1.2em;
23   font-weight: bold;
24   border-radius: 8px;
25 }
26 /* Tablet: 2 columns */
27 @media (min-width: 600px) and (max-width: 1024px) {
28   body {
29     background-color: #e0f2f1; /* Tablet: Light Green */
30   }
31   .container {
32     grid-template-columns: repeat(2, 1fr);
33   }
34 }
35 /* Large screens: 3 columns */
36 @media (min-width: 1024px) {
37   .container {
38     grid-template-columns: repeat(3, 1fr);
39   }
40 }
41 </style>
42 </head>
43 <body>
44 <div class="container">
45   <div class="box">HELLO</div>
46   <div class="box">WELCOME</div>
47   <div class="box">TO</div>
48   <div class="box">E-LIBRARY</div>
49   <div class="box">CONTACT</div>
50   <div class="box">ELIB@LIB.ORG</div>
51 </div>
52 </body>
53 </html>
```

```
1 <!-- CSS -->
2 @media (min-width: 600px) and (max-width: 1024px) {
3   body {
4     background-color: #e0f2f1; /* Tablet: Light Green */
5   }
6   .container {
7     grid-template-columns: repeat(2, 1fr);
8   }
9 }
10 /* Large screens: 3 columns */
11 @media (min-width: 1024px) {
12   body {
13     background-color: #e0f2f1; /* Large screen: Light Blue */
14   }
15   .container {
16     grid-template-columns: repeat(3, 1fr);
17   }
18 }
19 </style>
20 </head>
21 <body>
22 <div class="container">
23   <div class="box">HELLO</div>
24   <div class="box">WELCOME</div>
25   <div class="box">TO</div>
26   <div class="box">E-LIBRARY</div>
27   <div class="box">CONTACT</div>
28   <div class="box">ELIB@LIB.ORG</div>
29 </div>
30 </body>
31 </html>
```

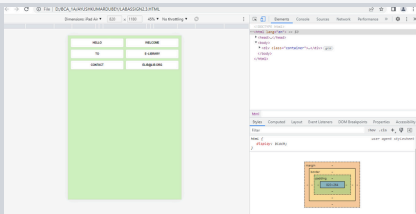
### Desktop View (Large Screens)



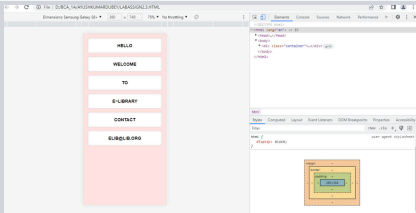
This section shows responsive behavior created with CSS media queries.

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

## Tablet View (Two Column Layout)



## Mobile View (Single Column Layout)



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 <!-- CSS -->
2 <head>
3   <title>Animated Button</title>
4   <style>
5     :root {
6       --btn-bg: #000080;
7       --btn-hover-bg: #000080;
8       --btn-color: #FFFF00;
9       --btn-padding: 10px 20px;
10      --btn-radius: 10px;
11      --transition-time: 200ms;
12      --shadow: 0 5px 10px #000080;
13    }
14
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, #000080, #FFFF00, #FFFF00);
23    }
24
25    .btn {
26      display: inline-block;
27      background: var(--btn-bg);
28      color: var(--btn-color);
29      padding: var(--btn-padding);
30      border-radius: var(--btn-radius);
31      border: none;
32      cursor: pointer;
33      font-size: 16px;
34      font-weight: bold;
35      text-decoration: none;
36      box-shadow: var(--shadow);
```

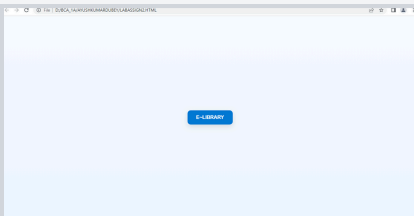
### Hover State Showing Color

```
37      box-shadow: var(--shadow);
38      transition: transform 0.5s scale(1);
39
40      transition:
41        background-color var(--transition-time) ease,
42        transform var(--transition-time) cubic-bezier(0.3, 0.7, 0.1, 0.9),
43        box-shadow var(--transition-time) ease;
44      will-change: transform, background-color;
45    }
46
47    /* Hover and focus state: color change and scale up */
48    .btn:hover,
49    .btn:focus-visible {
50      background: var(--btn-hover-bg);
51      transform: scale(1.05);
52      box-shadow: 0 5px 10px #000080;
53      outline: none;
54    }
55
56    /* Active state: slightly press down */
57    .btn:active {
58      transform: scale(0.95);
59      box-shadow: 0 5px 10px #000080;
60    }
61
62    /* Respect user preference for reduced motion */
63    @media (prefers-reduced-motion: reduce) {
64      .btn {
65        transition: none;
66      }
67    }
68  </style>
69 </head>
70 <body>
71   <button class="btn" type="button">Click Me</button>
72 </body>
```

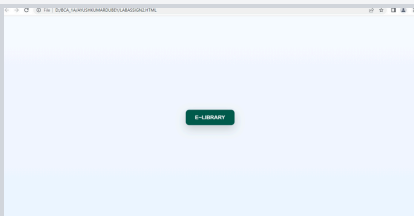
Demonstrates an animated button created with CSS, featuring smooth hover transitions, color change, and scale-up effects.

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

### BUTTONS CURRENT COLOUR



### Hover State – Color and Size Change



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