ADVANCED WEB TECHNOLOGIES

INDEX

1. Create a time table using HTML and CSS.

index.html

```
<!DOCTYPE html>
<html lang="en">

<head>
    <meta charset="UTF-8">
    <meta http-equiv="X-UA-Compatible" content="IE=edge">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <link rel="stylesheet" href="styles.css">
    <title>Timetable</title>
</head>

<body>
    <header>
        <h1>Timetable</h1>
        <h2>1st Year, <a href=https://www.sjc.ac.in/computerdepartment.php
            target="_blank">M.Sc. Computer Science</a>, 2022-2024</h2>
    </header>

    <main>

        <table>

            <tr>
                <th>
                    Day/Time
                </th>
                <td>
                    9:15AM-10:05AM
                </td>
                <td>
                    10:10AM-11:00AM
                </td>
                <td>
                    11:05AM-11:55AM
                </td>
                <td>
                    12PM-12:55PM
                </td>
                <td>
                    12:55PM-1:50PM
                </td>
```

```html
        <td>
            1:50PM-2:40PM
        </td>
        <td>
            2:45PM-3:35PM
        </td>
        <td>
            3:35PM-4:30PM
        </td>
    </tr>

    <tr>
        <th>
            Monday
        </th>
        <td>
            AWT/ADBMS Lab
        </td>
        <td>
            AWT/ADBMS Lab
        </td>
        <td>
            AWT/ADBMS Lab
        </td>
        <td>
            AWT
        </td>
        <td>
            L
        </td>
        <td>
            ADBMS
        </td>
        <td>
            SPM
        </td>
        <td>
            ML
        </td>
    </tr>

    <tr>
        <th>
            Tuesday
        </th>
```

```html
            <td>
                ML Lab
            </td>
            <td>
                ML Lab
            </td>
            <td>
                ML Lab
            </td>
            <td>
                CD
            </td>
            <td>
                U
            </td>
            <td>
                ML
            </td>
            <td>
                ADBMS
            </td>
            <td>
                Library
            </td>
        </tr>

        <tr>
            <th>
                Wednesday
            </th>
            <td>
                AWT/ADBMS Lab
            </td>
            <td>
                AWT/ADBMS Lab
            </td>
            <td>
                AWT/ADBMS Lab
            </td>
            <td>
                SPM
            </td>
            <td>
                N
            </td>
```

```
        <td>
            CD
        </td>
        <td>
            AWT
        </td>
        <td>
            ML
        </td>
    </tr>

    <tr>
        <th>
            Thursday
        </th>
        <td>
            ML Lab
        </td>
        <td>
            ML Lab
        </td>
        <td>
            ML Lab
        </td>
        <td>
            CD
        </td>
        <td>
            C
        </td>
        <td>
            AWT
        </td>
        <td>
            SPM
        </td>
        <td>
            Library
        </td>
    </tr>

    <tr>
        <th>
            Friday
        </th>
```

```
                              <td>
                                  ADBMS
                              </td>
                              <td>
                                  ML
                              </td>
                              <td>
                                  AWT
                              </td>
                              <td>
                                  SPM
                              </td>
                              <td>
                                  H
                              </td>
                              <td>
                                  ADBMS
                              </td>
                              <td>
                                  CD
                              </td>
                              <td>
                                  Library
                              </td>
                          </tr>

                  </table>

          </main>

  </body>

  </html>
```

styles.css

```css
body {
    font-family: 'Lucida Sans', 'Lucida Sans Regular', 'Lucida Grande', 'Lucida Sans
Unicode', Geneva, Verdana, sans-serif;
    margin: auto;
}


header {
    padding: 5px;
    text-align: center;
    box-shadow: 10px 10px 8px #83dada;
}


table {
    width: 100%;
    max-width: 1500px;
    margin: 0 auto;
    box-shadow: 10px 10px 8px #5ca299;
}


table, th, td {
    border: 1px solid black;
    border-collapse: collapse;
    padding: 5px 3px;
    text-align: center;
}

a:default {
    color:rgb(14, 14, 85);
}

a:visited {
    color: #5ca299;
}

a:hover {
    color:rgb(189, 125, 169);
}
```

OUTPUT

Timetable

1st Year, M.Sc. Computer Science, 2022-2024

Day/Time	9:15AM-10:05AM	10:10AM-11:00AM	11:05AM-11:55AM	12PM-12:55PM	12:55PM-1:50PM	1:50PM-2:40PM	2:45PM-3:35PM	3:35PM-4:30PM
Monday	AWT/ADBMS Lab	AWT/ADBMS Lab	AWT/ADBMS Lab	AWT	L	ADBMS	SPM	ML
Tuesday	ML Lab	ML Lab	ML Lab	CD	U	ML	ADBMS	Library
Wednesday	AWT/ADBMS Lab	AWT/ADBMS Lab	AWT/ADBMS Lab	SPM	N	CD	AWT	ML
Thursday	ML Lab	ML Lab	ML Lab	CD	C	AWT	SPM	Library
Friday	ADBMS	ML	AWT	SPM	H	ADBMS	CD	Library

2. Create a static website for an online business which includes a registration page, which contains these:
        (a) Home (At least 3 div elements)
        (b) Login (A Form)
        (c) Registration Page (A Form)

index.html

```html
<!DOCTYPE html>
<html lang="en">
  <head>
    <meta charset="UTF-8" />
    <meta http-equiv="X-UA-Compatible" content="IE=edge" />
    <meta name="viewport" content="width=device-width, initial-scale=1.0" />
    <link rel="preconnect" href="https://fonts.googleapis.com" />
    <link rel="preconnect" href="https://fonts.gstatic.com" crossorigin />
    <link rel="stylesheet" href="styles.css" />
    <link
      href="https://fonts.googleapis.com/css2?family=Source+Serif+Pro&display=swa
      p"
      rel="stylesheet"
    />
    <link
href="https://fonts.googleapis.com/css2?family=Montserrat:wght@300&display=swap"
rel="stylesheet">
    <link href="https://fonts.googleapis.com/css2?family=Philosopher&display=swap"
rel="stylesheet">
    <title>Wholesome Bakes</title>
  </head>
  <body>
    <header>
      <div id="navbar">
        <h1 id="nav-logo">Wholesome Bakes</h1>
        <ul id="nav-list">
          <li><a href="#home">Home</a></li>
          <li><a href="#products">Products</a></li>
          <li><a href="#register">Register</a></li>
          <li><a href="#contact-us">Contact Us</a></li>
          <li><a href="login.html" target="_blank">Login</a></li>
        </ul>
```

```html
        </div>
    </header>
    <main>
      <section id="home">
        <div id="home-header">
            <h2>Fresh, Delicious, Homely.</h2>
            <h3>We are committed to quality services, everywhere, all the
            time.</h3>
            <figure>
                <img src="bakery.jpg" alt="Bakery Shop">
                    <figcaption>Photo by <a
                    href="https://unsplash.com/fr/@blsnki?utm_source=unsplash&utm_med
                    ium=referral&utm_content=creditCopyText">Yeh Xintong</a> on <a
                    href="https://unsplash.com/photos/go3DT3PpIw4?utm_source=unsplash
                    &utm_medium=referral&utm_content=creditCopyText">Unsplash</a>
                </figcaption>
            </figure>
        </div>

      </section>
      <section id="about-us">
      </section>
      <section id="products">
      </section>

      <section id="register">
        <div>
            <h3>Register now!</h3>
            <form action="submitted.html" method="post" onsubmit="validate()">
                <section id="personal-details">
                  <label for="name"
                    >Enter your name:
                    <br />
                    <input type="text" name="name" id="name" placeholder="Enter
                     your name..." required />
                  </label>
                  <label for="email"
                    >Enter your email:
                    <br />
                    <input type="email" name="email" id="email"
```

```html
          placeholder="Enter your email..."required />
      </label>
      <label for="dob"
        >Enter your date of birth:
        <br />
        <input type="date" name="dob" id="dob" required />
      </label>
    </section>

    <section id="gender-details">
      <label for="gender-choices">Select your gender:</label>
      <ul>
        <li>
          <input type="radio" name="gender" id="gender-f" value="f"
            />F
        </li>
        <li>
          <input type="radio" name="gender" id="gender-m" value="m"
            />M
        </li>
        <li>
          <input
            type="radio"
            name="gender"
            id="gender-o"
            value="other"
          />Other
        </li>
      </ul>
    </section>

    <section id="source-section">
      <label for="sources">Where did you hear about us?</label>
      <br />
      <select name="" id="">
        <option value="">(select one)</option>
        <option value="instagram">Instagram</option>
        <option value="twitter">Twitter</option>
        <option value="facebook">Facebook</option>
        <option value="website">Our Official Website</option>
```

```html
      </select>
    </section>

    <section id="comment-box">
      <label for="comments">Any suggestions/comments for us?</label>
      <br />
      <textarea
        name="comments-area"
        id="comments"
        cols="30"
        rows="5"
        placeholder="Enter your comments here..."
      ></textarea>
    </section>

    <section>
      <label for="password-box">Enter your password</label>
      <br />
      <input
        type="password"
        id="password-box"
        name="password-box"
        placeholder="Enter your password..."
        required
      />
    </section>
    <br />

    <section>
      <label for="confirm-pwd">Re-enter your password</label>
      <br />
      <input type="password" id="confirm-pwd" name="confirm-pwd"
       placeholder="Enter your password..."/>
    </section>
    <br />

    <section id="submit-section">
      <input type="submit" name="" id="submit-btn" value="Submit" />
    </section>
</form>
```

```html
                    </div>

            </section>

            </main>
            <footer>
              <section id="contact-us">
              </section>
            </footer>
        </body>
    </html>
```

login.html

```html
<!DOCTYPE html>
<html lang="en">
  <head>
    <meta charset="UTF-8" />
    <meta http-equiv="X-UA-Compatible" content="IE=edge" />
    <meta name="viewport" content="width=device-width, initial-scale=1.0" />
    <link rel="preconnect" href="https://fonts.googleapis.com" />
    <link rel="preconnect" href="https://fonts.gstatic.com" crossorigin />
    <link rel="stylesheet" href="styles.css" />
    <link
      href="https://fonts.googleapis.com/css2?family=Source+Serif+Pro&display=swap"
      rel="stylesheet"
    />
    <link
      href="https://fonts.googleapis.com/css2?family=Montserrat:wght@300&display=swap
      " rel="stylesheet"
    />
    <link
      href="https://fonts.googleapis.com/css2?family=Philosopher&display=swap"
      rel="stylesheet"
    />
    <title>Login</title>
  </head>
  <body>
    <header id="login-header">
      <h1>Welcome to Wholesome Bakes!</h1>
    </header>
    <main>
      <section id="login-screen">
        <section id="login">
          <div>
            <h3>Log In</h3>
            <form action="submitted.html" method="post" onsubmit="validate()">
              <section id="personal-details">
                <label for="email"
                  >Enter your email:
                  <br />
                  <input
```

```
                    type="email"
                    name="email"
                    id="email"
                    placeholder="Enter your email..."
                    required
                  />
                </label>
              </section>
              <br />
              <section>
                <label for="password-box">Enter your password</label>
                <br />
                <input
                  type="password"
                  id="password-box"
                  name="password-box"
                  placeholder="Enter your password..."
                  required
                />
              </section>
              <br />

              <section id="submit-section">
                <input type="submit" name="" id="submit-btn" value="Submit" />
              </section>
            </form>
          </div>
        </section>
      </section>
    </main>
  </body>
</html>
```

styles.css

```css
* {
  box-sizing: border-box;
}

html,
::before,
::after {
  box-sizing: inherit;
}

body {
  margin: 0;
  font-family: "Philosopher", sans-serif;
  background-color: #3a071b;
}

#navbar {
  display: grid;
  grid-template-columns: auto auto;
  align-items: center;
  background-color: #3a071b;
  background-size: cover;
  position: fixed;
  height: 12vh;
  width: 100vw;
  max-width: 100%;
}

#navbar #nav-logo {
  padding: 0 0.5rem 0 0.5rem;
  text-transform: uppercase;
  color: #ecd4f1;
  font-size: clamp(0.5rem, 10rem, 2rem);
}

#navbar #nav-list {
  display: flex;
  flex-direction: row;
```

```css
  justify-content: space-evenly;
  align-items: center;
}

#nav-list li {
  list-style-type: none;
  text-transform: uppercase;
  font-size: clamp(0.2rem, 5rem, 1.1rem);
  font-weight: bold;
}

#nav-list a {
  text-decoration: none;
  color: #ecd4f1;
}

#nav-list a:hover {
  text-shadow: 1px 0.1px 5px rgba(255, 255, 255, 0.541);
}

#home {
  height: 110vh;
  width: 100vw;
  max-width: 100%;
  padding-top: 4.5rem;
  background-color: #d1bcd6;
}

#home #home-header {
  display: flex;
  flex-direction: column;
  text-align: center;
  font-family: "Source Serif Pro", serif;
}

#home-header h2,
#home-header h3 {
  margin: 0;
}
```

```css
#home-header h2 {
  padding-top: 1rem;
  text-shadow: 1px 0.1px 5px #ffffff;
}


#home-header h3 {
  padding-top: 0.4rem;
  padding-bottom: 0.2rem;
  text-shadow: 1px 0.1px 5px #ffffff;
}


#home figure figcaption {
  font-family: "Source Serif Pro", serif;
  font-family: "Philosopher", sans-serif;
  font-size: clamp(0.1rem, 1rem, 0.6rem);
  color: rgba(0, 0, 0, 0.432);
}


#home figure figcaption a {
  color: rgba(0, 0, 0, 0.432);
  text-decoration: none;
}


#register {
  height: 120vh;
  background: #a36e84;
}


#register div,
#login div {
  display: flex;
  flex-direction: column;
  align-items: center;
}


#register div h3,
#login div h3 {
  text-transform: uppercase;
  font-size: clamp(1rem, 6rem, 2rem);
  text-shadow: 1px 0.5px 3px #ecd4f1;
```

```css
}

form {
  background-color: rgba(25, 0, 0, 0.5);
  color: rgb(255, 255, 255);
  border: 1px solid #3a071b8e;
  border-radius: 13px;
  display: block;
  margin: 0 auto;
  width: 500px;
  padding: 1rem 1rem;
  font-family: "Source Serif Pro", serif;
  font-family: "Philosopher", sans-serif;
}

input {
  font-family: "Montserrat", sans-serif;
}

#personal-details label {
  display: block;
  padding-bottom: 5px;
}

#personal-details input {
  width: 150px;
}

#gender-details {
  margin-top: 5px;
}

#gender-details label {
  display: block;
  margin-bottom: -10px;
}

#gender-details ul {
  padding-left: 0;
}
```

```css
#gender-details li {
  list-style-type: none;
}

#class-details {
  margin-top: -7px;
}

#class-details label {
  display: block;
  margin-bottom: -10px;
}

#class-details ul {
  padding-left: 0;
}

#class-details li {
  list-style-type: none;
}

#source-section {
  display: block;
  margin-top: -5px;
  margin-bottom: 15px;
}

#source-section select {
  font-family: "Montserrat", sans-serif;
}

#source-section option {
  font-family: "Montserrat", sans-serif;
  color: black;
  font-weight: 600;
}

#comment-box {
  margin-top: -5px;
```

```css
    margin-bottom: 5px;
}

#comment-box textarea {
  font-family: "Montserrat", sans-serif;
  color: black;
}

#submit-btn {
  background: #3a071b;
  background-size: cover;
  background-repeat: no-repeat;
  color: aliceblue;
  border: 1px solid #d1bcd6;
  border-radius: 10px;
  width: 7vw;
  height: 4vh;
  text-transform: uppercase;
}

#submit-btn:hover {
  background-size: cover;
  background-repeat: no-repeat;
  color: #3a071b;
  background-color: #d1bcd6;
  border: 1px solid #3a071b;
}

#login-header,
#login-screen {
  display: flex;
  flex-direction: column;
  /* background: #a36e84; */
  align-items: center;
}

#login-header {
  color:#ecd4f1;
}
```

```css
#login-header h1 {
  text-transform: uppercase;
}

#login-screen #yum {
  color:#ecd4f1;
}

#login-screen #login-msg {
  color: #3a071b;
}

#login {
  height: 60vh;
  width: 100vw;
  background-color: #d1bcd6;
}
```

OUTPUT

3. Create a static webpage for an online bookstore which contains a catalogue of available books.

<ins>index.html</ins>

```html
<!DOCTYPE html>
<html lang="en">
  <head>
    <meta charset="UTF-8" />
    <meta http-equiv="X-UA-Compatible" content="IE=edge" />
    <meta name="viewport" content="width=device-width, initial-scale=1.0" />
    <link rel="preconnect" href="https://fonts.googleapis.com" />
    <link rel="preconnect" href="https://fonts.gstatic.com" crossorigin />
    <link rel="stylesheet" href="styles.css" />
    <link
      href="https://fonts.googleapis.com/css2?family=Montserrat:wght@300&display=swap
      " rel="stylesheet"
    />
    <link
      href="https://fonts.googleapis.com/css2?family=IBM+Plex+Mono:wght@200&display=s
      wap"
      rel="stylesheet"
    />
    <link
      href="https://fonts.googleapis.com/css2?family=Rokkitt:wght@100&display=swap"
      rel="stylesheet"
    />
    <link href="https://fonts.googleapis.com/css2?family=Roboto+Mono&display=swap"
     rel="stylesheet">
    <title>Bookworm</title>
  </head>
  <body>
    <header>
      <div id="navbar">
        <h1 id="nav-logo">Bookworm</h1>
        <ul id="nav-list">
          <li><a href="#home">Home</a></li>
          <li><a href="#books">Books</a></li>
          <li><a href="#register">Register</a></li>
          <li><a href="#contact-us">Contact Us</a></li>
          <li><a href="login.html" target="_blank">Login</a></li>
```

```
        </ul>
      </div>
  </header>
  <main>
    <section id="home">
      <div id="home-header">
        <figure>
          <img src="bookstore.jpg" alt="Book Store" />
          <figcaption>
            Photo by
            <a
              href="https://unsplash.com/@ninjason?utm_source=unsplash&utm_medium=r
              eferral&utm_content=creditCopyText"
              >Jason Leung</a
            >
            on
            <a
              href="https://unsplash.com/photos/gWZzETD0Ad4?utm_source=unsplash&utm
              _medium=referral&utm_content=creditCopyText"
              >Unsplash</a
            >
          </figcaption>
        </figure>
        <h2>Enter a world, of your choice...</h2>
      </div>
    </section>
    <section id="about-us"></section>
    <section id="books">
      <div>
        <ul>
          <li>
            <figure>
              <img
                src="https://images-na.ssl-images-
                amazon.com/images/S/compressed.photo.goodreads.com/
                books/1542542538i/42857229.jpg"
                alt=""
              />
              <figcaption>The Year of the Ladybird, Graham Joyce</figcaption>
            </figure>
```

```
                    </li>
                    <li>
                        <figure>
                            <img
                              src="https://m.media-amazon.com/images/W/IMAGERENDERING_521856-
                              T1/images/I/51I9fQLhnpL.jpg"
                              alt=""
                            />
                            <figcaption>Inception (The Marked Saga Book 1), Bianca
                              Scardoni</figcaption>
                          </figure>
                    </li>
                    <li><figure>
                        <img
                          src="https://m.media-amazon.com/images/W/IMAGERENDERING_521856-
                          T1/images/I/81tNBrrGSJL.jpg"
                          alt=""
                        />
                        <figcaption>The Loser, Thomas Bernhard</figcaption>
                      </figure></li>
                </ul>
            </div>
            <div>
              <ul>
                <li><figure>
                    <img
                      src="https://m.media-amazon.com/images/W/IMAGERENDERING_521856-
                      T1/images/I/71SCqfZfHEL.jpg"
                      alt=""
                    />
                    <figcaption>Atonement, Ian McEwan</figcaption>
                  </figure></li>
                <li><figure>
                    <img
                      src="https://m.media-amazon.com/images/W/IMAGERENDERING_521856-
                      T1/images/I/71kW3I8WH5L.jpg"
                      alt=""
                    />
                    <figcaption>Gilead, Marilynne Robinson</figcaption>
                  </figure></li>
```

```
                    <li><figure>
                        <img
                          src="https://m.media-amazon.com/images/W/IMAGERENDERING_521856-
                          T1/images/I/51GTpkH-JJL._SX343_BO1,204,203,200_.jpg"
                          alt=""
                        />
                        <figcaption>The Fire Eternal, Chris d'Lacey</figcaption>
                      </figure></li>
                </ul>
              </div>
              <div>
                <ul>
                    <li><figure>
                        <img
                          src="https://m.media-amazon.com/images/W/IMAGERENDERING_521856-
                          T1/images/I/91ZaXXD8K8L.jpg"
                          alt=""
                        />
                        <figcaption>Ringworld, Larry Niven</figcaption>
                      </figure></li>
                    <li><figure>
                        <img
                          src="https://m.media-amazon.com/images/W/IMAGERENDERING_521856-
                          T1/images/I/71mWiiUV9ZL.jpg"
                          alt=""
                        />
                        <figcaption>History Is All You Left Me, Adam Silvera</figcaption>
                      </figure></li>
                    <li><figure>
                        <img
                          src="https://m.media-amazon.com/images/W/IMAGERENDERING_521856-
                          T1/images/I/71XtGTK8OpL.jpg"
                          alt=""
                        />
                        <figcaption>Trainspotting, Irvine Welsh</figcaption>
                      </figure></li>
                </ul>
              </div>
          </section>
          <section id="register">
```

```html
<div>
  <h3>Register now!</h3>
  <form action="submitted.html" method="post" onsubmit="validate()">
    <section id="personal-details">
      <label for="name"
        >Enter your name:
        <br />
        <input
          type="text"
          name="name"
          id="name"
          placeholder="Enter your name..."
          required
        />
      </label>
      <label for="email"
        >Enter your email:
        <br />
        <input
          type="email"
          name="email"
          id="email"
          placeholder="Enter your email..."
          required
        />
      </label>
      <label for="dob"
        >Enter your date of birth:
        <br />
        <input type="date" name="dob" id="dob" required />
      </label>
    </section>

    <section id="gender-details">
      <label for="gender-choices">Select your gender:</label>
      <ul>
        <li>
          <input type="radio" name="gender" id="gender-f" value="f" />F
        </li>
        <li>
```

```html
            <input type="radio" name="gender" id="gender-m" value="m" />M
      </li>
      <li>
        <input
          type="radio"
          name="gender"
          id="gender-o"
          value="other"
        />Other
      </li>
    </ul>
</section>

<section id="source-section">
  <label for="sources">Where did you hear about us?</label>
  <br />
  <select name="" id="">
    <option value="">(select one)</option>
    <option value="instagram">Instagram</option>
    <option value="twitter">Twitter</option>
    <option value="facebook">Facebook</option>
    <option value="website">Our Official Website</option>
  </select>
</section>

<section id="comment-box">
  <label for="comments">Any suggestions/comments for us?</label>
  <br />
  <textarea
    name="comments-area"
    id="comments"
    cols="30"
    rows="5"
    placeholder="Enter your comments here..."
  ></textarea>
</section>

<section>
  <label for="password-box">Enter your password</label>
  <br />
```

```html
            <input
              type="password"
              id="password-box"
              name="password-box"
              placeholder="Enter your password..."
              required
            />
          </section>
          <br />

          <section>
            <label for="confirm-pwd">Re-enter your password</label>
            <br />
            <input
              type="password"
              id="confirm-pwd"
              name="confirm-pwd"
              placeholder="Enter your password..."
            />
          </section>
          <br />

          <section id="submit-section">
            <input type="submit" name="" id="submit-btn" value="Submit" />
          </section>
        </form>
      </div>
    </section>
  </main>
  <footer>
    <section id="contact-us"></section>
  </footer>
 </body>
</html>
```

```css
* {
  box-sizing: border-box;
}

html,
::before,
::after {
  box-sizing: inherit;
}

body {
  margin: 0;
  font-family: 'IBM Plex Mono', monospace;
  background-color: #7591ec;
}

#navbar {
  display: grid;
  grid-template-columns: auto auto;
  align-items: center;
  background-color: #07153a;
  background-size: cover;
  position: fixed;
  height: 13vh;
  width: 100vw;
  max-width: 100%;
}

#navbar #nav-logo {
  padding: 0 0.5rem 0 0.5rem;
  text-transform: uppercase;
  color: #ffffff;
  font-size: clamp(0.5rem, 10rem, 2rem);
}

#navbar #nav-list {
  display: flex;
  flex-direction: row;
```

```css
    justify-content: space-evenly;
    align-items: center;
}

#nav-list li {
  list-style-type: none;
  text-transform: uppercase;
  font-size: clamp(0.2rem, 5rem, 1.1rem);
  font-weight: bold;
}

#nav-list a {
  text-decoration: none;
  color: #ffffff;
}

#nav-list a:hover {
  text-shadow: 1px 0.1px 5px rgba(255, 255, 255, 0.541);
}

#home {
  height: 105vh;
  width: 100vw;
  max-width: 100%;
  padding-top: 4.5rem;
  background-color: #bfccf7;
}

#home #home-header {
  display: flex;
  flex-direction: column;
  text-align: center;
  font-family: 'IBM Plex Mono', monospace;
  font-style: italic;
  letter-spacing: 0.2rem;
  /* font-family: 'Rokkitt', serif;      */
}

#home-header h2,
#home-header h3 {
```

```css
    margin: 0;
    font-weight: 600;
  }


  #home figure {
    margin-bottom: 0;
    padding-bottom: 1.4rem;
}

  #home figure figcaption {
    font-family: 'Rokkitt', serif;
    font-size: clamp(0.1rem, 1rem, 0.7rem);
    font-weight: 600;
    color: #00000085;
  }

  #home figure figcaption a {
    color: rgba(0, 0, 0, 0.774);
    text-decoration: none;
  }

  #books {
    display: grid;
    grid-template-columns: auto auto auto;
    height: 150vh;
    padding-top:1rem;
    background-color: #07153a;
}

  #books li {
    list-style-type: none;
  }

  #books figure {
    display: flex;
    flex-direction: column;
    align-items: center;
  }
```

```css
  #books figure figcaption{
    padding-top: 0.1rem;
    color:#b0c1f8;
    font-size: clamp(0.2rem, 1rem, 0.7rem);
    font-family: 'Roboto Mono', monospace;
    font-style: italic;
    letter-spacing: 0.5px;

}

  #books img {
    height: 40vh;
    width:fit-content;
  }

  #register {
    height: 120vh;
    background-color: #7591ec;
  }

  #register div,
  #login div {
    display: flex;
    flex-direction: column;
    align-items: center;
  }

  #register div h3,
  #login div h3 {
    text-transform: uppercase;
    font-size: clamp(1rem, 6rem, 2rem);
    text-shadow: 1px 0.5px 3px #07153abd;
  }

  form {
    background-color: #07153abd;
    color: rgb(255, 255, 255);
    border: 1px solid #07153ac2;
    border-radius: 13px;
    display: block;
```

```css
  margin: 0 auto;
  width: 500px;
  padding: 1rem 1rem;
  font-family: 'Rokkitt', serif;
  font-weight: 500;
  font-size: clamp(0.5rem,3rem,1.2rem);
}

input {
  font-family: "Montserrat", sans-serif;
}

#personal-details label {
  display: block;
  padding-bottom: 5px;
}

#personal-details input {
  width: 150px;
}

#gender-details {
  margin-top: 5px;
}

#gender-details label {
  display: block;
  margin-bottom: -10px;
}

#gender-details ul {
  padding-left: 0;
}

#gender-details li {
  list-style-type: none;
}

#class-details {
  margin-top: -7px;
```

```
}
#class-details label {
  display: block;
  margin-bottom: -10px;
}

#class-details ul {
  padding-left: 0;
}

#class-details li {
  list-style-type: none;
}

#source-section {
  display: block;
  margin-top: -5px;
  margin-bottom: 15px;
}

#source-section select {
  font-family: "Montserrat", sans-serif;
}

#source-section option {
  font-family: "Montserrat", sans-serif;
  color: black;
  font-weight: 600;
}

#comment-box {
  margin-top: -5px;
  margin-bottom: 5px;
}
#comment-box textarea {
  font-family: "Montserrat", sans-serif;
  color: black;
}
#submit-btn {
  background: #07153a;
```

```css
    background-size: cover;
    background-repeat: no-repeat;
    color: aliceblue;
    border: 1px solid #7591ec;
    border-radius: 10px;
    width: 7vw;
    height: 4vh;
    text-transform: uppercase;
}
#submit-btn:hover {
    background-size: cover;
    background-repeat: no-repeat;
    color: #07153a;
    background-color: #7591ec;
    border: 1px solid #07153a;
}
#login-header,
#login-screen {
    display: flex;
    flex-direction: column;
    /* background: #a36e84; */
    align-items: center;
}
#login-header {
    color:#ecd4f1;
}
#login-header h1 {
    text-transform: uppercase;
}
#login-screen #yum {
    color:#ecd4f1;
}
#login-screen #login-msg {
    color: #3a071b;
}
#login {
    height: 60vh;
    width: 100vw;
    background-color: #d1bcd6;
}
```

OUTPUT
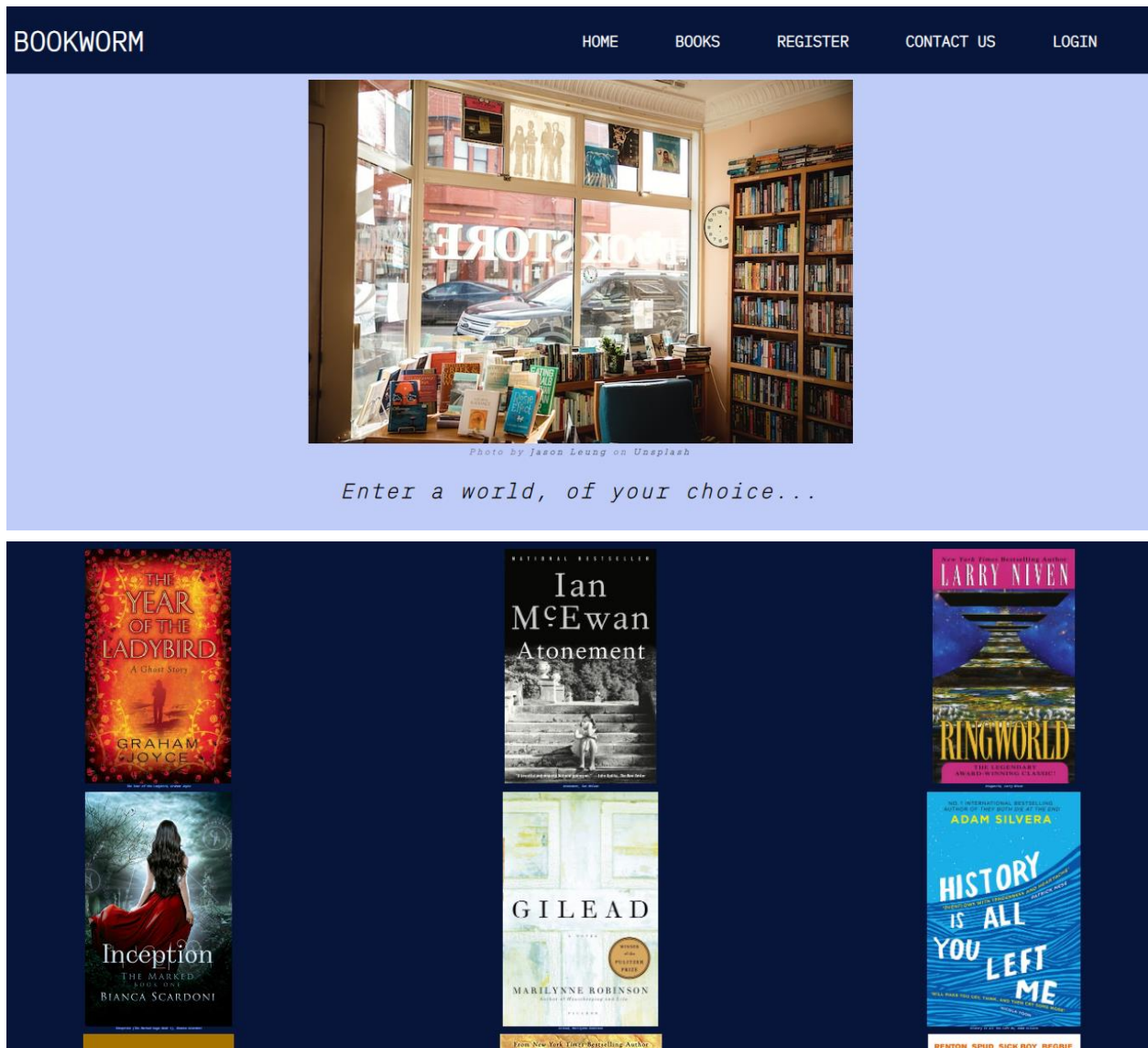
4. Write a Javascript program to convert numbers to Roman numerals.

convert.js

```javascript
function convertToRoman(num) {
    var l = [1000,900,500,400,100,90,50,40,10,9,5,4,1];
    var sym = ['M','CM','D','CD','C','XC','L','XL','X','IX','V','IV','I']
    var str = "";
    let i = 0;
    while(num>0){
      if(l[i]<=num){
        str+=sym[i];
        num-=l[i];
      }
      else{
        i++;
      }
    }
    return str;
    }

console.log(convertToRoman(36));
```

OUTPUT

127.0.0.1:5500 says

Enter a number...

1582

OK   Cancel

127.0.0.1:5500 says

The number 1582 in Roman Numerals is MDLXXXII.

OK
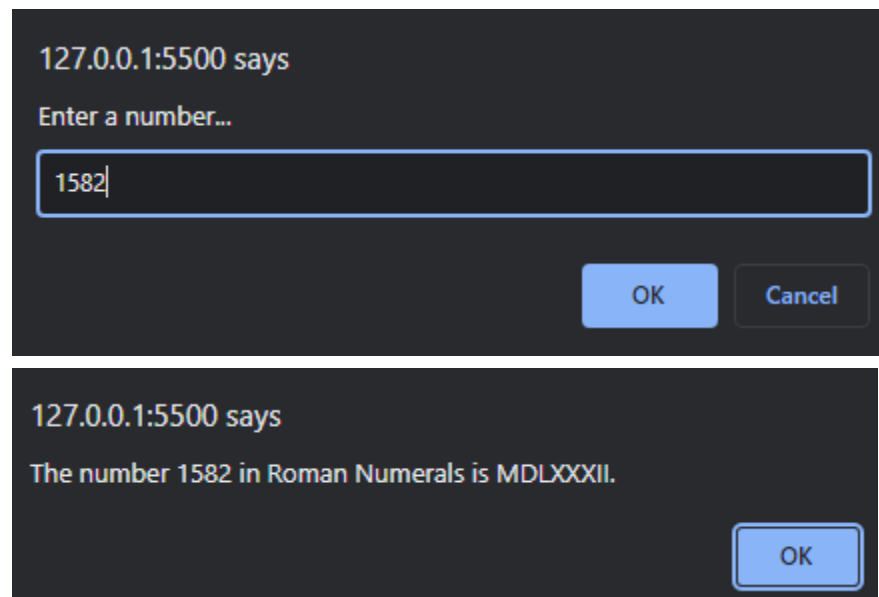
5. Write a Javascript program to validate a form, which satisfies the conditions:
   (a) Name should only contain alphabets.
   (b) Password should not be less than 6 characters length.
   (c) E-mail id must follow the pattern name@domain.com.
   (d) Phone number should contain 10 digits only.
   (e) Last Name and Address should not be empty.

index.html

```html
<!DOCTYPE html>
<html lang="en">
  <head>
    <meta charset="UTF-8" />
    <meta http-equiv="X-UA-Compatible" content="IE=edge" />
    <meta name="viewport" content="width=device-width, initial-scale=1.0" />
    <link rel="stylesheet" href="styles.css" />
    <link rel="preconnect" href="https://fonts.googleapis.com" />
    <link rel="preconnect" href="https://fonts.gstatic.com" crossorigin />
    <link
      href="https://fonts.googleapis.com/css2?family=Nunito&display=swap"
      rel="stylesheet"
    />
    <link
      rel="shortcut icon"
      href="https://cdn-icons-png.flaticon.com/512/9318/9318633.png"
      type="image/x-icon"
    />
    <title>Webvy</title>
    <script>
        const validate = () =>{
            const phVal = document.getElementById('number').value;
            const pwdVal = document.getElementById('pwd').value;
            const fnameVal = document.getElementById('name').value;
            if (String(phVal).length != 10){
                alert("Phone no. should have 10 digits");
                return false;
            }
            if (fnameVal.length < 7){
                alert("First name has to be 6 charaters long!");
                return false;
```

```
            }
            if (!/^[a-zA-z]*$/g.test(fnameVal)){
                alert("First name has to be characters only!");
                return false;
            }
            if(pwdVal.length < 7){
                 alert("Password should be greater than 6 characters!");
                return false;
            }
            return true;
        }
    </script>
</head>
<body>
  <main>
    <div id="form-heading">
      <h1 id="title">Webvy Registration</h1>
      <p id="description">For Students</p>
    </div>
    <form action="#index.html" id="survey-form" method="post" onsubmit="return
     validate()">
      <div id="form-body">
        <fieldset id="personal-details">
          <h2>Personal Details</h2>
          <hr>
           <label id="name-label" for="name"
            >First Name
            <input
              id="name"
              type="text"
              placeholder="Enter your first name"
              required
           />
          </label>
          <label id="lname-label" for="lname"
            >Last Name
            <input
              id="lname"
              type="text"
              placeholder="Enter your last name"
```

```
              required
          />
        </label>
        <label id="email-label" for="email"
          >Email
          <input
            id="email"
            type="email"
            placeholder="Enter your email"
            required
          />
        </label>
        <label id="number-label" for="number"
          >Phone No.
          <input
            id="phone"
            type="phone"
            placeholder="Enter your number"
            required
          />
        </label>
        <label id="pwd-label" for="pwd"
          >Password
          <input
            id="pwd"
            type="password"
            placeholder="Enter your password"
            required
          />
        </label>
      </fieldset>

      <fieldset id="learning-details">
        <h2>Learning Progress</h2>
        <hr>
        <label id="radio-buttons" class="learning-q">
          Are you currently learning web development?
          <label for="yes-web">
            <input type="radio" name="recs" id="yes-adopt" value="yes" />
            Yes
```

```html
      </label>
      <label for="no-web">
        <input type="radio" name="recs" id="no-adopt" value="no" />
        No
      </label>
  </label>

  <label id="checkbox-options" class="learning-q">
    What have you learnt so far?
    <label for="html-skill">
      <input
        type="checkbox"
        name="skill-set"
        id="html-skill"
        value="html-skill"
      />
      HTML
    </label>
    <label for="css-skill">
      <input
        type="checkbox"
        name="skill-set"
        id="css-skill"
        value="css-skill"
      />
      CSS
    </label>
    <label for="js-skill">
      <input
        type="checkbox"
        name="skill-set"
        id="js-skill"
        value="js-skill"
      />
      Javascript
    </label>
    <label for="frameworks">
      <input
        type="checkbox"
        name="skill-set"
```

```html
              id="frameworks"
              value="frameworks"
            />
            Frameworks(Bootstrap, React, etc..)
          </label>
        </label>
        <label for="dropdown" class="learning-q">
          What do you find most difficult to learn?
          <select id="dropdown" name="dropdown" >
            <option value="" name="options">(select one)</option>
            <option value="1" name="options">The Box Model</option>
            <option value="3" name="options">Grid and Flexbox</option>
            <option value="2" name="options">Javascript programming</option>
            <option value="2" name="options">None of the above</option>
          </select>
        </label>
      </fieldset>
      <fieldset id="student-feedback">
        <h2>About Me</h2>
        <hr>
        <label for="feedback">
          Please tell us about yourself and how got into web development
          <textarea
            name="feedback"
            id="feedback"
            cols="45"
            rows="10"
            placeholder="Enter your feedback here..."
            required
          ></textarea>
        </label>
      </fieldset>
      <fieldset id="submit-button"><button id="submit" type="submit">
       Submit</button>
      </fieldset>
    </div>
  </form>
</main>
</body>
</html>
```

styles.css

```css
html {
  box-sizing: border-box;
}

*,
::before,
::after {
  box-sizing: inherit;
}

body {
  background-image: linear-gradient(
    90deg,
    #1c3c6b 0%,
    #7ebffc 35%,
    #7ebffc 50%,
    #7ebffc 70%,
    #1c3c6b 100%
  );
  background-color: white;
  background-size: cover;
  margin: 0;
  font-family: "Nunito", sans-serif;
  color: white;
}

#form-heading {
  text-align: center;
  margin: 0 auto;
}

#form-heading h1 {
  margin-top: -0.1rem;
  font-size: 2.3rem;
  color: white;
  text-shadow: 1px 0.1px 20px #ffffffe1;
}
```

```css
#form-heading p {
  margin-top: -1.7rem;
  font-size: 1.3rem;
  font-weight: 600;
  color: #ffffffe1;
}

#form-body {
  margin-top: -1.5rem;
  background: #1c3c6b70;
  border-radius: 5px;
}

form {
  width: 50vw;
  max-width: 500px;
  min-width: 350px;
  margin: 0 auto;
  padding: 1% 0;
}

form h2 {
  margin-top: 1px;
  margin-bottom: 0;
}

form hr {
  width: 45%;
  margin: 0 0 5px 0;
  opacity: 45%;
}

fieldset {
  border: none;
  padding: 0.7rem 0.5rem;
  border-bottom: 1px solid rgba(226, 215, 175, 0.5);
}

label {
  display: block;
```

```css
    margin: 0.5rem 0;
}

input,
select,
textarea {
  font-size: small;
  font-style: italic;
  margin: 10px 0 0 0;
  font-family: "Nunito", sans-serif;
  border-radius: 5px;
  border: 1px solid transparent;
}

#name,
#lname,
#email,
#phone,
#pwd {
  display: block;
  width: 55%;
  padding-bottom: 1%;
}

#learning-details .learning-q {
  padding-top: 15px;
}

select#dropdown {
  display: block;
  background: #1c3c6b70;
  color: white;
  width: 57%;
  border: none;
  font-family: "Nunito", sans-serif;
}

#submit-button {
  border-bottom: none;
}
```
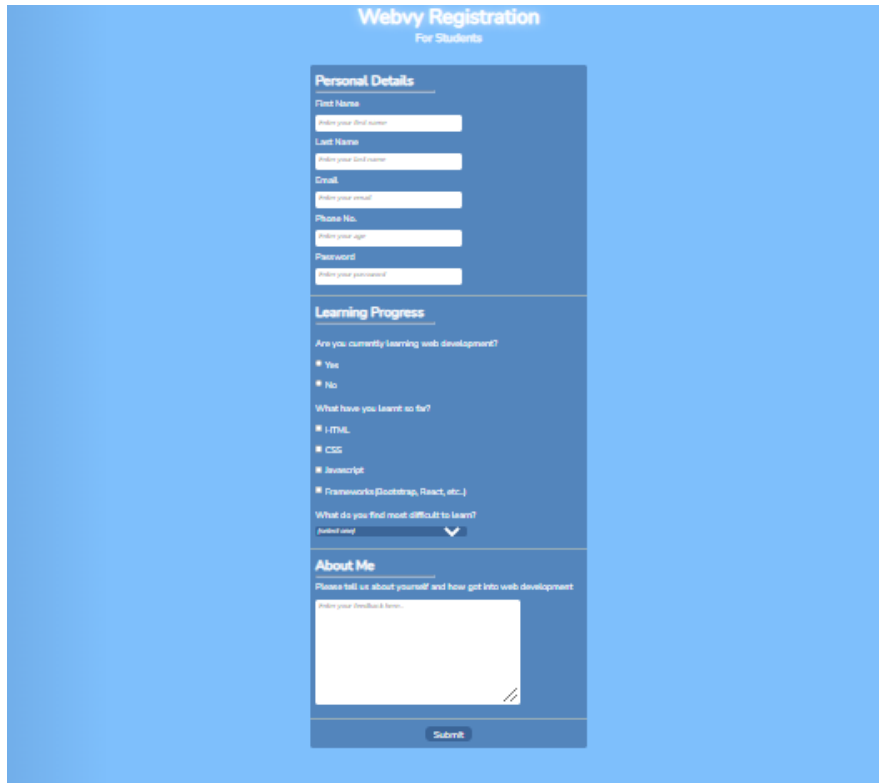
```css
#submit {
  border: none;
  display: block;
  height: 20%;
  width: 85px;
  text-align: center;
  margin: 0 auto;
  font-family: "Nunito", sans-serif;
  background: #1c3c6b70;
  color: white;
  font-size: 17px;
  border-radius: 10px;
}

button#submit:hover {
  background: #7ebffc;
}
```

OUTPUT

6. Write a Javascript program to demonstrate pop-up boxes, for the following:
    (a) Display date
    (b) Factorial of a number
    (c) A multiplication table of numbers from 1 to 10
    (d) Sum of n numbers

popupboxes.html

```html
<!DOCTYPE html>
<html lang="en">
  <head>
    <meta charset="UTF-8" />
    <meta http-equiv="X-UA-Compatible" content="IE=edge" />
    <meta name="viewport" content="width=device-width, initial-scale=1.0" />
    <link rel="stylesheet" href="styles.css" />
    <link rel="preconnect" href="https://fonts.googleapis.com" />
    <link rel="preconnect" href="https://fonts.gstatic.com" crossorigin />
    <link
      href="https://fonts.googleapis.com/css2?family=Anonymous+Pro&display=swap"
      rel="stylesheet"
    />
    <title>Pop Up Box Demo</title>
  </head>

  <body>
    <header>
      <h1>Random Operations 4 Fun <sup>Javascript</sup></h1>
    </header>

    <main>
      <div>
        <button onclick="displayDate()">Today's Date</button>
        <button onclick="promtDemo()">Factorial of a number</button>
        <button onclick="alertDemo()" onmouseout="mouseOut()">
          Multiplication table
        </button>
        <button onclick="confirmDemo()" onmouseout="mouseOut()">
          Sum of 2 numbers
        </button>
      </div>
    </main>
```

```
<script>
  const displayDate = () => {
    date = new Date();
    day = date.getDate();
    month = date.getMonth() + 1;
    year = date.getFullYear();
    window.alert(`Today's date is ${day}/${month}/${year}.`);
  };

  const promtDemo = () => {
    let n = window.prompt("Enter a number...");
    console.log("your number is " + n);
    let fact = 1;
    for (let i = n; i > 1; i--) {
      fact *= i;
    }
    window.alert(" The factorial of " + n + " is " + fact + ".");
  };

  const alertDemo = () => {
    let n = window.prompt("Enter a number...");
    str = "";
    for (let i = 1; i <= 10; i++) {
      str += `${n} x ${i} = ${n * i} \n`;
    }
    window.alert("Multiplication table of " + parseInt(n) + "\n" + str);
  };

  const confirmDemo = () => {
    let num1 = window.prompt("Enter number 1");
    if (
      window.confirm(
        "Press OK if number 2 = 10\nPress Cancel if number 2 = 20"
      )
    ) {
      num2 = 10;
    } else {
      num2 = 20;
    }
```

```
        let num3 = window.prompt("Enter number 3");
        num1 = parseInt(num1);
        num2 = parseInt(num2);
        num3 = parseInt(num3);
        window.alert(
          num1 + " + " + num2 + " + " + num3 + " = " + (num1 + num2 + num3)
        );
      };
    </script>
  </body>
</html>
```

```css
* {
  box-sizing: border-box;
}


html,
::before,
::after {
  box-sizing: inherit;
}


body {
  background: linear-gradient(
      180deg,
      #a4ff4fcc,
      #f3c80686 70.71%
    ),
    linear-gradient(127deg, #00ff4ccc, #0099ff00 70.71%),
    linear-gradient(
      336deg,
      #11ff45cc,
      #ff00f200 70.71%
    );
  background-attachment: fixed;
  margin: 0;
  font-family: "Anonymous Pro", monospace;
  padding: 1rem;
}


header {
    display: flex;
    flex-direction: row;
    justify-content: center;
}


header h1 {
    font-size: clamp(1rem, 4rem, 2rem);
    color: #063d01;
    text-shadow: 1px 0.5px 1px #90ff11cc, 1px 0.5px 1px #063d01;
```

```css
    }

    header sup {
        vertical-align: top;
        font-size: clamp(0.2rem, 2rem, 1rem);
        position: relative;
        top: -0.7em;
        color: #063d01;
        text-shadow: 1px 0.5px 1px #90ff11cc;
        text-transform: uppercase;
        letter-spacing: 1.5px;
    }
    main div {
        padding: 1rem;
        display: grid;
        grid-template-columns: auto auto auto auto;
        gap: 2rem;
        justify-content: center;
    }
    main div button {
        width: 15vw;
        height: 10vh;
        background-color: #268f1da8;
        border: 1px solid #32bb2660;
        border-radius: 3px 8px;
        box-shadow: 1px 0.5px 8px #90ff11cc;
        font-family: "Anonymous Pro", monospace;
        font-weight: 600;
        color: #acffa6;
        text-transform: uppercase;
        font-size: clamp(0.5rem, 3rem, 1rem);
    }
    main div button:hover {
        background-color: #90ff11cc;
        border: 1px solid #5eff004f;
        color: #1f6e18;
        box-shadow: 1px 0.1px 10px #5eff00;
    }
```

OUTPUT

Random Operations 4 Fun

JAVASCRIPT

TODAY'S DATE   FACTORIAL OF A NUMBER   MULTIPLICATION TABLE   SUM OF 2 NUMBERS

Today's Date

127.0.0.1:5500 says

Today's date is 5/4/2023.

OK

Factorial of a number

127.0.0.1:5500 says

Enter a number...

10

OK   Cancel

127.0.0.1:5500 says

The factorial of 10 is 3628800.

OK
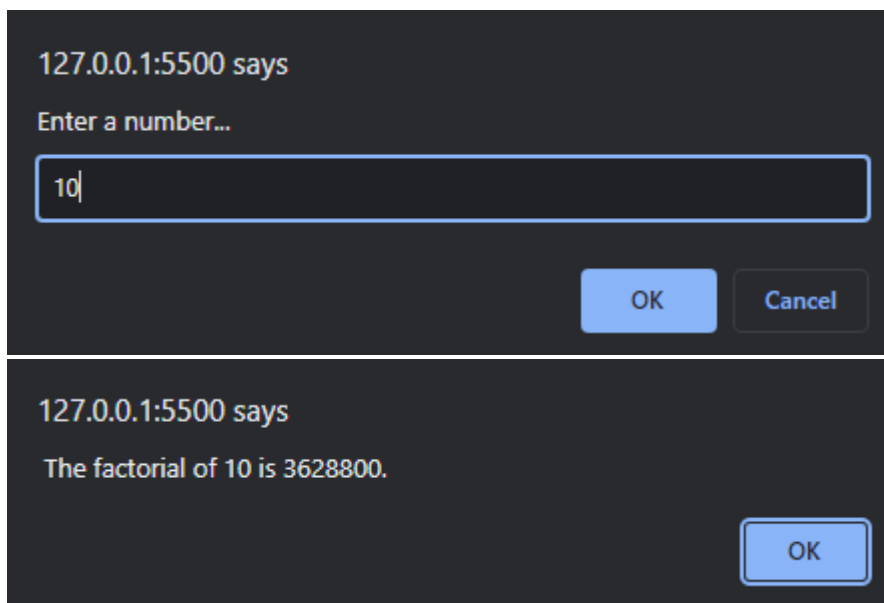
Multiplication Table

127.0.0.1:5500 says

Enter a number...

121

OK   Cancel

127.0.0.1:5500 says

Multiplication table of 121
121 x 1 = 121
121 x 2 = 242
121 x 3 = 363
121 x 4 = 484
121 x 5 = 605
121 x 6 = 726
121 x 7 = 847
121 x 8 = 968
121 x 9 = 1089

OK

Sum of numbers

127.0.0.1:5500 says

Enter number 1

12.54

OK   Cancel

127.0.0.1:5500 says

Press OK if number 2 = 10
Press Cancel if number 2 = 20

OK   Cancel

127.0.0.1:5500 says

Enter number 3

|

OK   Cancel

7. Create a portfolio website. Demonstrate use of inline, internal and external CSS stylesheets.

index.html

```html
<!DOCTYPE html>
<html lang="en">
  <head>
    <meta charset="UTF-8" />
    <meta http-equiv="X-UA-Compatible" content="IE=edge" />
    <meta name="viewport" content="width=device-width, initial-scale=1.0" />
    <link rel="stylesheet" href="styles.css" />
    <link rel="preconnect" href="https://fonts.googleapis.com" />
    <link rel="preconnect" href="https://fonts.gstatic.com" crossorigin />
    <link
      href="https://fonts.googleapis.com/css2?family=Montserrat&display=swap"
      rel="stylesheet"
    />
    <link
      href="https://fonts.googleapis.com/css2?family=Unbounded&display=swap"
      rel="stylesheet"
    />
    <title>Portfolio</title>
  </head>
  <body>
    <!-- HEADER -->
    <header>
      <nav id="navbar">
        <ul id="nav-list">
          <li><a href="#welcome-section" class="nav-link">About</a></li>
          <li><a href="#projects-section" class="nav-link">Projects</a></li>
          <li><a href="#contact-section" class="nav-link">Contact</a></li>
        </ul>
      </nav>
    </header>

    <!-- MAIN -->
    <main>
      <!-- ABOUT ME -->
      <section id="welcome-section">
        <h1>Hi! I'm Ady.</h1>
        <h2>An aspiring <span class="special-text">web developer</span>.</h2>
      </section>
      <!-- PROJECTS -->
      <section id="projects-section">
        <h2>These are some of my projects.</h2>
        <div id="project-grid">
          <a
            href="https://codepen.io/codeyady/full/YzjYXwm"
            target="_blank"
            class="project-tile"
          >
            <img src="https://shots.codepen.io/codeyady/pen/YzjYXwm-
```

```html
              1280.webp?version=1674412125" alt="Project-1" />
            <p>FCC Documentation Page</p>
          </a>
          <a
            href="https://codepen.io/codeyady/full/ZEjvwqj"
            target="_blank"
            class="project-tile"
            ><img src="https://shots.codepen.io/codeyady/pen/ZEjvwqj-
              512.webp?version=1675013670" alt="Project-2" />
            <p>FCC Survey Form</p>
          </a>
          <a
            href="https://codepen.io/codeyady/full/VwBzmqM"
            target="_blank"
            class="project-tile"
            ><img src="  https://shots.codepen.io/codeyady/pen/VwBzmqM-
              512.webp?version=1674315629" alt="Project-3" />
            <p>Silly Cat Page</p>
          </a>
        </div>

        <div id="codepen-box">
          <a href="https://codepen.io/codeyady" id="codepen-link">Show all</a>
        </div>
      </section>
      <!-- CONTACT ME -->

      <section id="contact-section">
        <h2>Find me on...</h2>
        <div id="profile-list">
            <a
            href="https://github.com/adelicia-js"
            class="profile-link"
            target="_blank"
            ><img src="https://cdn-icons-png.flaticon.com/512/2111/2111432.png"
              alt=""> </a
          >
          <a
            href="https://codepen.io/codeyady"
            class="profile-link"
            target="_blank"
            ><img src="https://cdn-icons-png.flaticon.com/512/2111/2111501.png"
              alt=""> </a
          >
        </div>
      </section>
    </main>
  </body>
</html>
```

styles.css

```css
html {
    box-sizing: border-box;
}

*, ::before, ::after {
    box-sizing: inherit;
}

body {
    margin: 0;
    padding: 0;
    font-family: 'Montserrat',sans-serif;
    background: rgba(9, 183, 252, 0.1);
    width: 100%;
    height: auto;
    background-size: cover;
}

/* NAV BAR */
#navbar {
    display: flex;
    justify-content: center;
    position: fixed;
    top: 0;
    left: 0;
    width: 100%;
    background-color: #201136;
    z-index: 10;
    overflow: hidden;
}

#nav-list {
    display: flex;
    gap: 25rem;
}

#nav-list li {
    list-style-type: none;
    margin-right: 1rem;
    font-weight: 600;
    padding-left: 0;
}

.nav-link {
    font-size: 1.2rem;
    color: rgb(255, 255, 255);
    text-decoration: none;
    text-transform: uppercase;
    letter-spacing: 0.3rem;
}

.nav-link:hover {
```

```css
        color: #9f80cf;
        text-shadow: 1px 0.1px 5px #201136,0 0 2px #201136, 0 0 2px #ffffff;
}

/* MAIN */

/* WELCOME */
#welcome-section {
        display: flex;
        width: 100%;
        height: 100vh;
        flex-direction: column;
        justify-content: center;
        align-items: center;
        background-color: black;
        /* background-image: #9f80cf; */
        background-image: linear-gradient(62deg, #9f80cf 0%, #9f80cf 50%, #9f80cf 100%);
        padding: 5rem;
        margin: 0;
}

#welcome-section h1, #welcome-section h2 {
        font-family: 'Unbounded',sans-serif;
        text-align: center;
}

#welcome-section h1{
        font-size: 3rem;
        color: white;
        margin-bottom: 0;
}

#welcome-section h2 {
        font-size: 2rem;
        font-style: oblique;
        color: #201136;
        margin-top: 0.1rem;
}

/* PROJECTS */
#projects-section {
        /* width: 100%; */
        /* height: 70vh; */
        text-align: center;
        padding: 2rem 1rem;
        background-color: rgb(0, 0, 0);
        background-image: linear-gradient(62deg, #c2a9e9 0%, #dad3e7 50%, #9c7ad4 100%);
}

#projects-section h2 {
        color: white;
        /* text-shadow: 1px 0.1px 10px #ffae00; */
        text-shadow: 1px 0.1px 10px #201136;
        font-family: 'Unbounded',sans-serif;
        padding-bottom: 0.5rem;
```

```css
}

#project-grid {
    display: grid;
    width: 100%;
    max-width: 1500px;
    margin: 0;
    margin-bottom: 1rem;
    grid-template-columns: repeat(auto-fit, minmax(350px, 1fr));
    gap: 2rem;
    padding-bottom: 0.5rem;
}

.project-tile {
    background-color: #201136;
    border-radius: 5px;
    text-decoration: none;
}

.project-tile img {
    width: 100%;
    height: 87%;
    object-fit: cover;
    border-radius: 5px 5px 0 0;
    color: rgba(255, 255, 255, 0.801);
}

.project-tile p {
    color: white;
    text-decoration: none;
    margin: 0;
    font-weight: 600;
    font-family: 'Unbounded',sans-serif;
    /* font-style: ; */
    font-weight: normal;
}

.project-tile:hover {
    box-shadow: 1px 0.1px 40px #4d3177;
}

#codepen-box {
    padding-top: 1rem;
    padding-bottom: 2rem;
}
#codepen-link {
    background: #ffffff;
    padding: 0.5rem 1rem;
    border-radius: 5px;
    color: #201136;
    text-decoration: none;
}

#codepen-link:hover {
    background: #201136;
```

```css
        color: #ffffff;
        box-shadow: 1px 0.1px 10px #4d3177;
    }

    /* CONTACT */
    #contact-section {
        width: 100%;
        text-align: center;
        padding: 2rem 1rem;
        background-color: rgb(0, 0, 0);
        background-image: linear-gradient(118deg, #2b1b42 0%, #4d3177 50%, #201136 100%);
        color: white;
    }

    #profile-list {
        display: flex;
        flex-direction: row;
        flex-wrap: wrap;
        justify-content: center;
        align-items: center;
        gap: 2rem;
        width: 100%;
        max-width: 1500px;
    }

    .profile-link img {
        width: 2rem;
        height: auto;
        max-width: 20vw;
        object-fit: cover;
    }
```
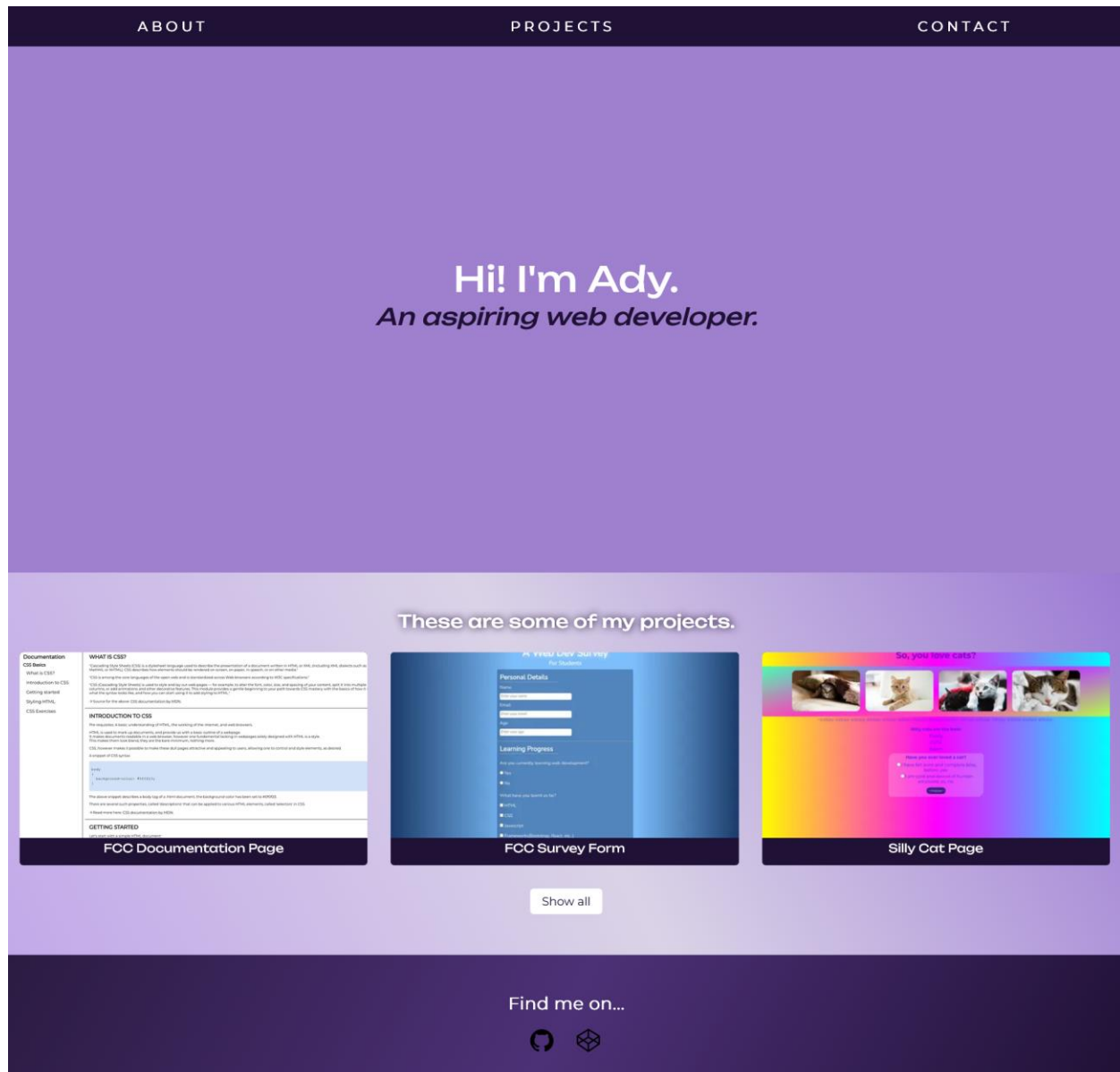
8. Write a program to implement Typescript classes with inheritance.

BankAccount.ts

```
class BankAccount {
    balance: number;
    constructor() {
        this.balance = 0;
    }
    deposit(amount: number) {
        this.balance += amount;
    }
    withdraw(amount: number) {
        if (this.balance > amount)
            this.balance -= amount;
    }
    transfer(amount: number, toAccount: BankAccount) {
        this.balance -= amount;
        toAccount.balance += amount;
    }
}

const adyAccount = new BankAccount();
const celAccount = new BankAccount();

adyAccount.deposit(5500);
celAccount.deposit(2000);

celAccount.transfer(2500, adyAccount);

console.log(adyAccount.balance);
console.log(celAccount.balance);
```

Output

```
PS C:\Users\Adelicia\Documents\Projects\msc-sem-2\AWT-Lab\Bank-Operations> npx tsc BankAccount.ts
PS C:\Users\Adelicia\Documents\Projects\msc-sem-2\AWT-Lab\Bank-Operations> node BankAccount.js
8000
-500
```

9. Write a program to implement Angular Modules.

```html
<!DOCTYPE html>
<html>
<script
src="https://ajax.googleapis.com/ajax/libs/angularjs/1.6.9/angular.min.js"></script>
<body>

<div ng-app="myApp"  ng-controller="myCtrl">
    {{ firstName + " " + lastName }}
</div>
<script>

    var app = angular.module("myApp", []);
    app.controller("myCtrl", function($scope) {
  $scope.firstName = "Adelicia";
  $scope.lastName = "Sequeira";
});

    </script>

</body>
</html>
```

Output

Adelicia Sequeira

10. Write a program to implement Angular Controllers.

```html
<!DOCTYPE html>
<html>
<script
src="https://ajax.googleapis.com/ajax/libs/angularjs/1.6.9/angular.min.js"></script>
<body>

    <div ng-app="myApp" ng-controller="myCtrl">

        First Name: <input type="text" ng-model="firstName"><br>
        Last Name: <input type="text" ng-model="lastName"><br>
        <br>
        Full Name: {{firstName + " " + lastName}}

        </div>

        <script>
        var app = angular.module('myApp', []);
        app.controller('myCtrl', function($scope) {
          $scope.firstName = "John";
          $scope.lastName = "Doe";
        });
        </script>

</body>
</html>
```

Output

First Name: Adelicia
Last Name: Sequeira

Full Name: Adelicia Sequeira

11. Write a program to implement Angular Directives.

```html
<!DOCTYPE html>
<html>
<script
src="https://ajax.googleapis.com/ajax/libs/angularjs/1.6.9/angular.min.js"></script>
<body>

<div ng-app=""  ng-init="firstName='John'">
    <p>Name: <input type="text" ng-model="firstName"></p>
    <p>You wrote: {{ firstName }}</p>
</div>

</body>
</html>
```

Output

Name: [Adelicia]

You wrote: Adelicia

12. Write a program to implement Angular components.

```html
<!DOCTYPE html>
<html>
<script
src="https://ajax.googleapis.com/ajax/libs/angularjs/1.6.9/angular.min.js"></script>
<body>

<div ng-app="">
  <p>Name: <input type="text" ng-model="name"></p>
  <p ng-bind="name"></p>
</div>

</body>
</html>
```

Output

Name: [Adelicia]

Adelicia

13. Write a program to implement Angular Forms.

```html
<!DOCTYPE html>
<html lang="en">
<script
src="https://ajax.googleapis.com/ajax/libs/angularjs/1.6.9/angular.min.js"></script>
<body>

<div ng-app="myApp" ng-controller="formCtrl">
  <form novalidate>
    First Name:<br>
    <input type="text" ng-model="user.firstName"><br>
    Last Name:<br>
    <input type="text" ng-model="user.lastName">
    <br><br>
    <button ng-click="reset()">RESET</button>
  </form>
  <p>form = {{user}}</p>
  <p>master = {{master}}</p>
</div>
<script>
var app = angular.module('myApp', []);
app.controller('formCtrl', function($scope) {
    $scope.master = {firstName:"John", lastName:"Doe"};
    $scope.reset = function() {
        $scope.user = angular.copy($scope.master);
    };
    $scope.reset();
});
</script>
</body>
</html>
```

Output

First Name:

Adelicia

Last Name:

Sequeira

RESET

form = {"firstName":"Adelicia","lastName":"Sequeira"}

master = {"firstName":"John","lastName":"Doe"}

ADVANCED DATABASE MANAGEMENT SYSTEMS
INDEX
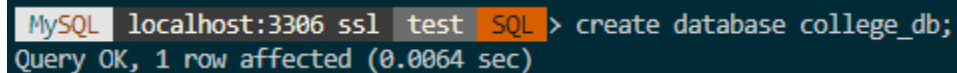
1. Creating Databases/Table Spaces/Constraints/Keys.

(a) Create a database using DDL commands for any real-world entity (with all type of constraints – null, not null, primary key, foreign key)

<u>CREATE</u>

```
create database college_db;
```

```
MySQL  localhost:3306 ssl  test  SQL > create database college_db;
Query OK, 1 row affected (0.0064 sec)
```

```sql
use college_db;

create table Students (
    Registration_Number varchar(6) primary key,
    Student_Name varchar(100) not null,
    Age integer not null,
    Class char(10) not null,
    Phone_Number bigint not null,
    Email varchar(100) not null,
    Date_Of_Birth date not null
);

create table Internals (
    Subject_Code varchar(100) not null,
    Subject_Name varchar(100) not null,
    Semester integer not null,
    Test_1 integer not null,
    Test_2 integer not null,
    Activity integer not null,
    Total integer not null,
    foreign key (Registration_Number) references Students(Registration_Number)
);

create table Finals (
    Subject_Code varchar(100) not null,
    Subject_Name varchar(100) not null,
    Semester integer not null,
    Theory integer not null,
    Practicals integer not null,
    Total integer not null,
    Grade varchar(10) not null,
    foreign key (Registration_Number) references Students(Registration_Number)
);
```

```sql
create table Department (
    Department_ID varchar(10) primary key,
    Department_Name varchar(20) not null,
    Staff_Strength integer not null,
    HOD_ID varchar(20) not null
);


create table Staff (
    Department_ID varchar(20) not null,
    Staff_ID varchar(20) primary key,
    Staff_Name varchar(100) not null,
    foreign key (Department_ID) references Department(Department_ID)
);
```

```
MySQL  localhost:3306 ssl  college_db  SQL > CREATE TABLE Students (
                                        -> Registration_Number VARCHAR(6) PRIMARY KEY,
                                        -> Student_Name VARCHAR(100) NOT NULL,
                                        -> Age INTEGER NOT NULL,
                                        -> Class CHAR(10) NOT NULL,
                                        -> Phone_Number BIGINT NOT NULL,
                                        -> Email VARCHAR(100) NOT NULL,
                                        -> Date_Of_Birth DATE NOT NULL
                                        -> );
Query OK, 0 rows affected (0.0249 sec)
```

```
MySQL  localhost:3306 ssl  college_db  SQL > create table Internals (
                                    -> Registration_Number varchar(6) not null,
                                    ->    Subject_Code varchar(100) not null,
                                    ->    Subject_Name varchar(100) not null,
                                    ->    Semester integer not null,
                                    ->    Test_1 integer not null,
                                    ->    Test_2 integer not null,
                                    ->    Activity integer not null,
                                    ->    Total integer not null,
                                    ->    foreign key (Registration_Number) references Students(Registration_Number)
                                    -> );
Query OK, 0 rows affected (0.0832 sec)
```

```
MySQL  localhost:3306 ssl  college_db  SQL > create table Finals (
                                    -> Registration_Number varchar(6) not null,
                                    ->    Subject_Code varchar(100) not null,
                                    ->    Subject_Name varchar(100) not null,
                                    ->    Semester integer not null,
                                    ->    Theory integer not null,
                                    ->    Practicals integer not null,
                                    ->    Total integer not null,
                                    ->    Grade varchar(10) not null,
                                    ->    foreign key (Registration_Number) references Students(Registration_Number)
                                    -> );
Query OK, 0 rows affected (0.0659 sec)
```
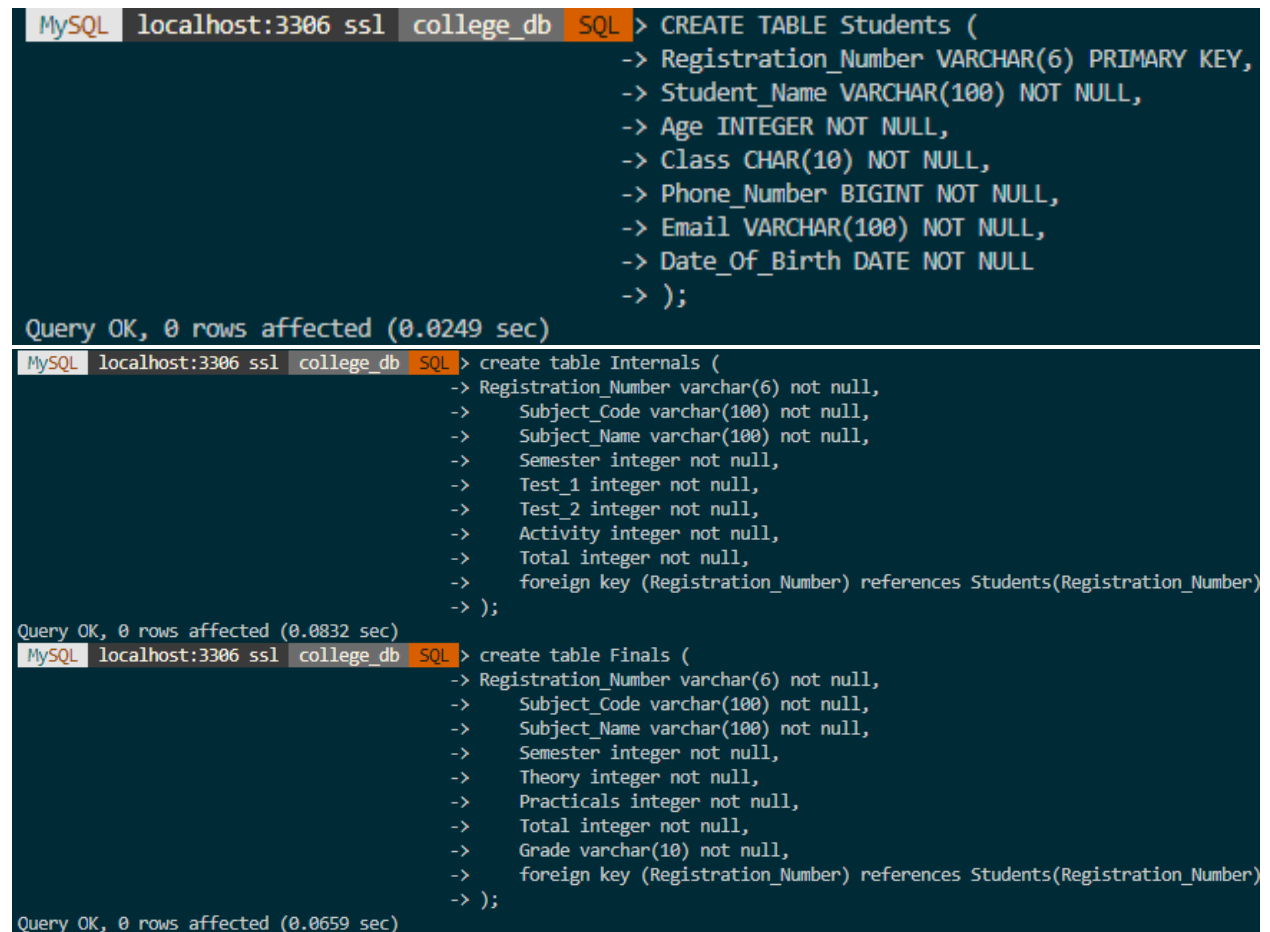
DESCRIBE

describe Students;

```
MySQL  localhost:3306 ssl  college_db  SQL > describe students;
+---------------------+--------------+------+-----+---------+-------+
| Field               | Type         | Null | Key | Default | Extra |
+---------------------+--------------+------+-----+---------+-------+
| Registration_Number | varchar(6)   | NO   | PRI | NULL    |       |
| Student_Name        | varchar(100) | NO   |     | NULL    |       |
| Age                 | int          | NO   |     | NULL    |       |
| Class               | char(10)     | NO   |     | NULL    |       |
| Phone_Number        | bigint       | NO   |     | NULL    |       |
| Email               | varchar(100) | NO   |     | NULL    |       |
| Date_Of_Birth       | date         | NO   |     | NULL    |       |
+---------------------+--------------+------+-----+---------+-------+
7 rows in set (0.0030 sec)
```

describe Department;

```
MySQL  localhost:3306 ssl  college_db  SQL > describe Department;
+-----------------+-------------+------+-----+---------+-------+
| Field           | Type        | Null | Key | Default | Extra |
+-----------------+-------------+------+-----+---------+-------+
| Department_ID   | varchar(10) | NO   | PRI | NULL    |       |
| Department_Name | varchar(20) | NO   |     | NULL    |       |
| Staff_Strength  | int         | NO   |     | NULL    |       |
| HOD_ID          | varchar(20) | NO   |     | NULL    |       |
+-----------------+-------------+------+-----+---------+-------+
4 rows in set (0.0022 sec)
```

ALTER

```
alter table Students
add Gender char(6) not null;

describe Students;
```

```
MySQL  localhost:3306 ssl  college_db  SQL > ALTER TABLE Students
                                          -> ADD Gender char(6) not null;
Query OK, 0 rows affected (0.0263 sec)

Records: 0  Duplicates: 0  Warnings: 0
MySQL  localhost:3306 ssl  college_db  SQL > describe Students;
+---------------------+--------------+------+-----+---------+-------+
| Field               | Type         | Null | Key | Default | Extra |
+---------------------+--------------+------+-----+---------+-------+
| Registration_Number | varchar(6)   | NO   | PRI | NULL    |       |
| Student_Name        | varchar(100) | NO   |     | NULL    |       |
| Age                 | int          | NO   |     | NULL    |       |
| Class               | char(10)     | NO   |     | NULL    |       |
| Phone_Number        | bigint       | NO   |     | NULL    |       |
| Email               | varchar(100) | NO   |     | NULL    |       |
| Date_Of_Birth       | date         | NO   |     | NULL    |       |
| Gender              | char(6)      | NO   |     | NULL    |       |
+---------------------+--------------+------+-----+---------+-------+
8 rows in set (0.0029 sec)
```

```
alter table department
modify HOD_ID integer not null;

describe Department;
```

```
MySQL  localhost:3306 ssl  college_db  SQL > alter table department
                                          -> modify HOD_ID integer not null;
Query OK, 0 rows affected (0.0145 sec)

Records: 0  Duplicates: 0  Warnings: 0
MySQL  localhost:3306 ssl  college_db  SQL > describe Department;
+-----------------+-------------+------+-----+---------+-------+
| Field           | Type        | Null | Key | Default | Extra |
+-----------------+-------------+------+-----+---------+-------+
| Department_ID   | varchar(10) | NO   | PRI | NULL    |       |
| Department_Name | varchar(20) | NO   |     | NULL    |       |
| Staff_Strength  | int         | NO   |     | NULL    |       |
| HOD_ID          | int         | NO   |     | NULL    |       |
+-----------------+-------------+------+-----+---------+-------+
4 rows in set (0.0028 sec)
```

DROP

```
drop table Department;
```

```
describe Department;
```

```
MySQL  localhost:3306 ssl  college_db  SQL > drop table Department;
Query OK, 0 rows affected (0.0251 sec)
MySQL  localhost:3306 ssl  college_db  SQL > describe Department;
ERROR: 1146 (42S02): Table 'college_db.department' doesn't exist
```

TRUNCATE

```
truncate table Students;
```
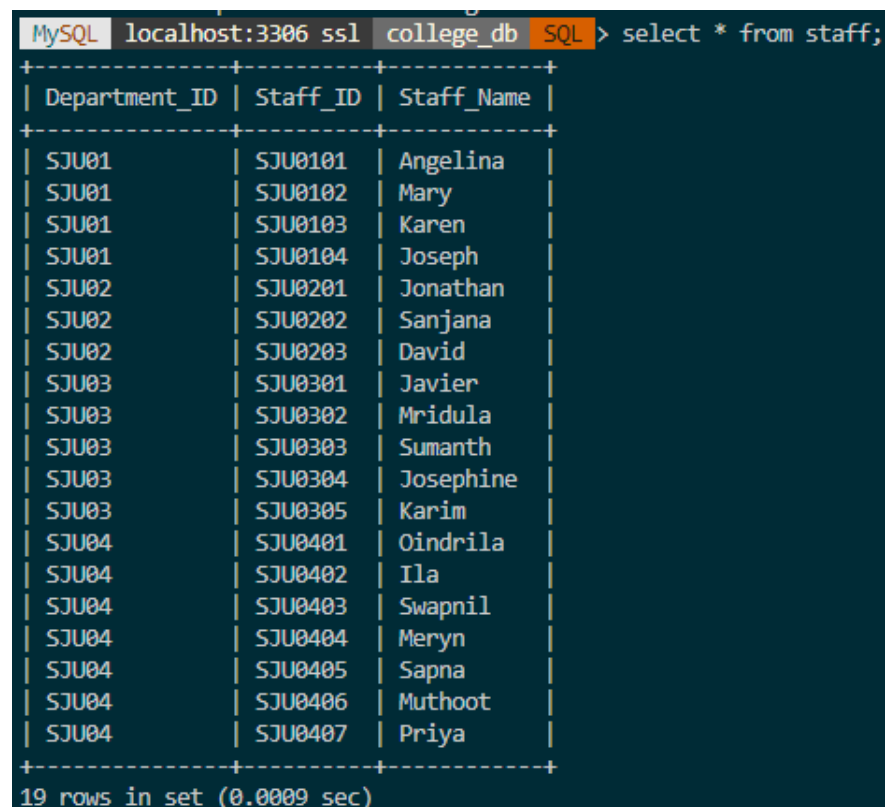
```
select * from Students;
```

```
MySQL  localhost:3306 ssl  college_db  SQL > select * from Students;
+---------------------+--------------+-----+-------+--------+--------------+----------------------+--------------+
| Registration_Number | Student_Name | Age | Class | Gender | Phone_Number | Email                | Date_Of_Birth |
+---------------------+--------------+-----+-------+--------+--------------+----------------------+--------------+
| CSC01               | Adelicia     | 21  | MSCS  | F      |   8247474661 | a.seq2804@gmail.com  | 2001-04-28   |
| CSC02               | Celesta      | 21  | MSCS  | F      |   9187462737 | cel4214@gmail.com    | 2001-03-28   |
| CSC03               | Sudeep       | 22  | MSCS  | M      |   8457856234 | sudeep20974@gmail.com| 2000-07-19   |
| CSC04               | Max          | 22  | MSCS  | M      |   8787467527 | maximus1039@gmail.com| 2000-12-01   |
+---------------------+--------------+-----+-------+--------+--------------+----------------------+--------------+
4 rows in set (0.0008 sec)
MySQL  localhost:3306 ssl  college_db  SQL > truncate table Students;
Query OK, 0 rows affected (0.0374 sec)
MySQL  localhost:3306 ssl  college_db  SQL > select * from Students;
Empty set (0.0030 sec)
```

(b) Implement DML commands for the above created database on all tables

INSERT

```
insert into Staff(Department_ID, Staff_ID, Staff_Name)
values('SJU01', 'SJU0101', 'Angelina'),
('SJU01', 'SJU0102', 'Mary'),
('SJU01', 'SJU0103', 'Karen'),
('SJU01', 'SJU0104', 'Joseph'),
('SJU02', 'SJU0201', 'Jonathan'),
('SJU02','SJU0202','Sanjana'),
('SJU02','SJU0203','David'),
('SJU03', 'SJU0301', 'Javier'),
('SJU03','SJU0302','Mridula'),
('SJU03','SJU0303','Sumanth'),
('SJU03','SJU0304','Josephine'),
('SJU03','SJU0305','Karim'),
('SJU04', 'SJU0401', 'Oindrila'),
('SJU04','SJU0402','Ila'),
('SJU04','SJU0403','Swapnil'),
('SJU04','SJU0404','Meryn'),
('SJU04','SJU0405','Sapna'),
('SJU04','SJU0406','Muthoot'),
('SJU04','SJU0407','Priya');
```

```
MySQL  localhost:3306 ssl  college_db  SQL > select * from staff;
+--------------+----------+------------+
| Department_ID | Staff_ID | Staff_Name |
+--------------+----------+------------+
| SJU01        | SJU0101  | Angelina   |
| SJU01        | SJU0102  | Mary       |
| SJU01        | SJU0103  | Karen      |
| SJU01        | SJU0104  | Joseph     |
| SJU02        | SJU0201  | Jonathan   |
| SJU02        | SJU0202  | Sanjana    |
| SJU02        | SJU0203  | David      |
| SJU03        | SJU0301  | Javier     |
| SJU03        | SJU0302  | Mridula    |
| SJU03        | SJU0303  | Sumanth    |
| SJU03        | SJU0304  | Josephine  |
| SJU03        | SJU0305  | Karim      |
| SJU04        | SJU0401  | Oindrila   |
| SJU04        | SJU0402  | Ila        |
| SJU04        | SJU0403  | Swapnil    |
| SJU04        | SJU0404  | Meryn      |
| SJU04        | SJU0405  | Sapna      |
| SJU04        | SJU0406  | Muthoot    |
| SJU04        | SJU0407  | Priya      |
+--------------+----------+------------+
19 rows in set (0.0009 sec)
```

UPDATE

```
update Internals
set Subject_Name = 'Theory Of Computation'
where Subject_Code = 'C01';
```

```
select * from Internals;
```

```
MySQL  localhost:3306 ssl  college_db  SQL > select * from internals;
+---------------------+--------------+-----------------+----------+--------+--------+----------+-------+
| Registration_Number | Subject_Code | Subject_Name    | Semester | Test_1 | Test_2 | Activity | Total |
+---------------------+--------------+-----------------+----------+--------+--------+----------+-------+
| CSC01               | C01          | NULL            |        1 |     25 |     25 |       25 |    50 |
| CSC02               | C01          | NULL            |        1 |     20 |     21 |       20 |    40 |
| CSC03               | C01          | NULL            |        1 |     16 |     15 |       15 |    20 |
| CSC04               | C01          | NULL            |        1 |      0 |     10 |       25 |    10 |
+---------------------+--------------+-----------------+----------+--------+--------+----------+-------+
4 rows in set (0.0007 sec)

MySQL  localhost:3306 ssl  college_db  SQL > update internals set Subject_Name = 'Theory Of Computation' where Subject_Code = 'C01';
Query OK, 4 rows affected (0.0035 sec)

Rows matched: 4  Changed: 4  Warnings: 0
MySQL  localhost:3306 ssl  college_db  SQL > select * from internals;
+---------------------+--------------+-----------------------+----------+--------+--------+----------+-------+
| Registration_Number | Subject_Code | Subject_Name          | Semester | Test_1 | Test_2 | Activity | Total |
+---------------------+--------------+-----------------------+----------+--------+--------+----------+-------+
| CSC01               | C01          | Theory Of Computation |        1 |     25 |     25 |       25 |    50 |
| CSC02               | C01          | Theory Of Computation |        1 |     20 |     21 |       20 |    40 |
| CSC03               | C01          | Theory Of Computation |        1 |     16 |     15 |       15 |    20 |
| CSC04               | C01          | Theory Of Computation |        1 |      0 |     10 |       25 |    10 |
+---------------------+--------------+-----------------------+----------+--------+--------+----------+-------+
4 rows in set (0.0007 sec)
```

DELETE

```
delete from Internals
where Test_1 = 0;
```

```
select * from Internals;
```

```
MySQL  localhost:3306 ssl  college_db  SQL > delete from internals where Test_1 = 0;
Query OK, 1 row affected (0.0049 sec)
MySQL  localhost:3306 ssl  college_db  SQL > select * from internals;
+---------------------+--------------+-----------------------+----------+--------+--------+----------+-------+
| Registration_Number | Subject_Code | Subject_Name          | Semester | Test_1 | Test_2 | Activity | Total |
+---------------------+--------------+-----------------------+----------+--------+--------+----------+-------+
| CSC01               | C01          | Theory Of Computation |        1 |     25 |     25 |       25 |    50 |
| CSC02               | C01          | Theory Of Computation |        1 |     20 |     21 |       20 |    40 |
| CSC03               | C01          | Theory Of Computation |        1 |     16 |     15 |       15 |    20 |
+---------------------+--------------+-----------------------+----------+--------+--------+----------+-------+
3 rows in set (0.0008 sec)
```

(c) Implement DCL commands for the above database in all tables

CREATE USER

Create user ady@localhost identified by 'ady2838';

```
MySQL  localhost:3306 ssl  college_db  SQL > create user ady@localhost identified by 'ady2838';
Query OK, 0 rows affected (0.0347 sec)
```

Connecting to new user…

>mysqlsh
>\sql
>\connect ady@localhost -p

```
MySQL  SQL > \connect ady@localhost -p
Creating a session to 'ady@localhost'
Please provide the password for 'ady@localhost': *******
Save password for 'ady@localhost'? [Y]es/[N]o/Ne[v]er (default No): Y
Fetching global names for auto-completion... Press ^C to stop.
Error during auto-completion cache update: Access denied; you need (at least one of) the PROCESS privilege(s) for this operation
Your MySQL connection id is 14 (X protocol)
Server version: 8.0.32 MySQL Community Server - GPL
No default schema selected; type \use <schema> to set one.
```

GRANT

grant all on college_db.* to ady@localhost;

show grants for ady@localhost;

```
MySQL  localhost:3306 ssl  college_db  SQL > grant all on college_db.* to ady@localhost;
Query OK, 0 rows affected (0.0047 sec)
MySQL  localhost:3306 ssl  college_db  SQL > show grants for ady@localhost;
+---------------------------------------------------------------+
| Grants for ady@localhost                                      |
+---------------------------------------------------------------+
| GRANT USAGE ON *.* TO `ady`@`localhost`                       |
| GRANT ALL PRIVILEGES ON `college_db`.* TO `ady`@`localhost`   |
+---------------------------------------------------------------+
2 rows in set (0.0006 sec)
```

Connecting to other user…

insert into values ('SJU05', 'Big Data Analytics', 10, 'H05');

select * from Dsepartment;

```
MySQL  localhost:33060+ ssl  SQL > show databases;
+--------------------+
| Database           |
+--------------------+
| college_db         |
| information_schema |
| performance_schema |
+--------------------+
3 rows in set (0.0012 sec)
MySQL  localhost:33060+ ssl  SQL > use college_db;
Default schema set to `college_db`.
MySQL  localhost:33060+ ssl  college_db  SQL > select * from department;
+---------------+-----------------+----------------+--------+
| Department_ID | Department_Name | Staff_Strength | HOD_ID |
+---------------+-----------------+----------------+--------+
| SJU01         | Computer Science |            20 | H01    |
| SJU02         | English          |            12 | H02    |
| SJU03         | Physics          |            18 | H03    |
| SJU04         | Mathematics      |            31 | H04    |
+---------------+-----------------+----------------+--------+
4 rows in set (0.0022 sec)
MySQL  localhost:33060+ ssl  college_db  SQL > insert into department
                               -> values ('SJU05','Big Data Analytics',10,'H05');
Query OK, 1 row affected (0.0024 sec)
MySQL  localhost:33060+ ssl  college_db  SQL > select * from department;
+---------------+--------------------+----------------+--------+
| Department_ID | Department_Name    | Staff_Strength | HOD_ID |
+---------------+--------------------+----------------+--------+
| SJU01         | Computer Science   |            20 | H01    |
| SJU02         | English            |            12 | H02    |
| SJU03         | Physics            |            18 | H03    |
| SJU04         | Mathematics        |            31 | H04    |
| SJU05         | Big Data Analytics |            10 | H05    |
+---------------+--------------------+----------------+--------+
5 rows in set (0.0009 sec)
```

REVOKE

revoke all on college_db.* from ady@localhost;

show grants for ady@localhost;

```
MySQL  localhost:3306 ssl  college_db  SQL > revoke all on college_db.* from ady@localhost;
Query OK, 0 rows affected (0.0031 sec)
MySQL  localhost:3306 ssl  college_db  SQL > show grants for ady@localhost;
+------------------------------------+
| Grants for ady@localhost           |
+------------------------------------+
| GRANT USAGE ON *.* TO `ady`@`localhost` |
+------------------------------------+
1 row in set (0.0005 sec)
```

2. Create Objects.
Implement view commands to create a view object for the above tables

CREATE VIEW

```
create view StudentName as
select Registration_Number, Student_Name from Students;
```

```
select * from StudentName;
```



```
create view ady_details as
select * from Students
where Registration_Number = 'CSC01';
```

```
select * from ady_details;
```

3. Moving Data.

a) Demonstrate exporting a database from MySQL

```
SELECT *
FROM (
  SELECT 'id', 'name', 'color', 'price'
  UNION ALL
  SELECT id, name, color, price
  FROM flowers
) AS data
INTO OUTFILE '/var/lib/mysql-files/flowersexport.csv'
FIELDS TERMINATED BY ','
ENCLOSED BY '"'
LINES TERMINATED BY '\n';
```

```
mysql> SELECT *
    -> FROM (
    ->   SELECT 'id', 'name', 'color', 'price'
    ->   UNION ALL
    ->   SELECT id, name, color, price
    ->   FROM flowers
    -> ) AS data
    -> INTO OUTFILE '/var/lib/mysql-files/flowesexport.csv'
    -> FIELDS TERMINATED BY ','
    -> ENCLOSED BY '"'
    -> LINES TERMINATED BY '\n';
Query OK, 4 rows affected (0.00 sec)
```

Flowersexport.csv

	A	B	C	D	
1	id	name	color	price	
2	1	Red	12.99	0	
3	2	Yellow	8.5	0	
4	3	White	15	0	

b) Demonstrate importing a table from another application to MySQL

```
set GLOBAL local_infile = 1; --Can be set as root only
exit

> mysql -u 'username' --local-infile=1 --secure-file-priv='' -p 'password'
--start sql server with local inline enabled

CREATE TABLE flowers (
  id INT AUTO_INCREMENT PRIMARY KEY,
  name VARCHAR(255) NOT NULL,
  color VARCHAR(255) NOT NULL,
  price DECIMAL(10, 2) NOT NULL
);

LOAD DATA LOCAL INFILE './flowers.csv'
INTO TABLE flowers
FIELDS TERMINATED BY ','
ENCLOSED BY '"'
LINES TERMINATED BY '\n'
IGNORE 1 ROWS;
```

```
mysql> use lab_tables;
Reading table information for completion of table and column names
You can turn off this feature to get a quicker startup with -A

Database changed
mysql> LOAD DATA LOCAL INFILE './flowers.csv' INTO TABLE flowers FIELDS TERMINATED BY ',' ENCLOSED BY '"' LINES TERMINATED BY '\n' IGNORE 1 ROWS;
Query OK, 3 rows affected, 6 warnings (0.01 sec)
Records: 3  Deleted: 0  Skipped: 0  Warnings: 6

mysql> select * from flowers;
+----+--------+-------+-------+
| id | name   | color | price |
+----+--------+-------+-------+
|  1 | Red    | 12.99 |  0.00 |
|  2 | Yellow | 8.50  |  0.00 |
|  3 | White  | 15.00 |  0.00 |
+----+--------+-------+-------+
3 rows in set (0.00 sec)
```

4. Recovery.
Implement commands for backward recovery (Savepoint, Commit, Rollback)

SAVEPOINT

```
start transaction;
savepoint college_save;
```

```
MySQL  localhost:3306 ssl  college_db  SQL > start transaction;
Query OK, 0 rows affected (0.0011 sec)
MySQL  localhost:3306 ssl  college_db  ★  SQL > savepoint college_save;
```

COMMIT

```
start transaction;

select * from Finals;
delete from Finals
where Theory < 50;
select * from Finals;
savepoint college_save;

commit;
```

```
MySQL  localhost:3306 ssl  college_db  SQL > start transaction;
Query OK, 0 rows affected (0.0003 sec)
MySQL  localhost:3306 ssl  college_db  ★  SQL > select * from finals;
+---------------------+--------------+------------------+----------+--------+------------+-------+-------+
| Registration_Number | Subject_Code | Subject_Name     | Semester | Theory | Practicals | Total | Grade |
+---------------------+--------------+------------------+----------+--------+------------+-------+-------+
| CSC01               | C01          | Design Of Analysis |        1 |     70 |         35 |   100 | A++   |
| CSC02               | C01          | Design Of Analysis |        1 |     55 |         29 |    90 | A     |
| CSC03               | C01          | Design Of Analysis |        1 |     43 |         21 |    70 | B     |
| CSC04               | C01          | Design Of Analysis |        1 |     35 |         35 |    50 | D     |
+---------------------+--------------+------------------+----------+--------+------------+-------+-------+
4 rows in set (0.0007 sec)
MySQL  localhost:3306 ssl  college_db  ★  SQL > delete from finals where Theory < 50;
Query OK, 2 rows affected (0.0046 sec)
MySQL  localhost:3306 ssl  college_db  ★  SQL > select * from finals;
+---------------------+--------------+------------------+----------+--------+------------+-------+-------+
| Registration_Number | Subject_Code | Subject_Name     | Semester | Theory | Practicals | Total | Grade |
+---------------------+--------------+------------------+----------+--------+------------+-------+-------+
| CSC01               | C01          | Design Of Analysis |        1 |     70 |         35 |   100 | A++   |
| CSC02               | C01          | Design Of Analysis |        1 |     55 |         29 |    90 | A     |
+---------------------+--------------+------------------+----------+--------+------------+-------+-------+
2 rows in set (0.0007 sec)
MySQL  localhost:3306 ssl  college_db  ★  SQL > savepoint college_save;
Query OK, 0 rows affected (0.0004 sec)
MySQL  localhost:3306 ssl  college_db  ★  SQL > commit;
Query OK, 0 rows affected (0.0017 sec)
```

ROLLBACK

```
start transaction;
select * from Finals;
delete from Finals
where Theory > 50;
select * from Finals;
rollback;
```



```
start transaction;
select * from Finals;
savepoint college_save;
delete from Finals
where Subject_Code = 'C01';
rollback to savepoint college_save;
select * from Finals;
```

```
MySQL  localhost:3306 ssl  college_db  SQL > start transaction;
Query OK, 0 rows affected (0.0003 sec)
MySQL  localhost:3306 ssl  college_db  ★ SQL > select * from finals;
+---------------------+--------------+--------------------+----------+--------+-----------+-------+-------+
| Registration_Number | Subject_Code | Subject_Name       | Semester | Theory | Practicals| Total | Grade |
+---------------------+--------------+--------------------+----------+--------+-----------+-------+-------+
| CSC01               | C01          | Design Of Analysis |       1  |    70  |       35  |  100  | A++   |
| CSC02               | C01          | Design Of Analysis |       1  |    55  |       29  |   90  | A     |
| CSC03               | C01          | Design Of Analysis |       1  |    40  |       19  |   68  | C     |
| CSC04               | C01          | Design Of Analysis |       1  |    20  |       19  |   40  | D     |
+---------------------+--------------+--------------------+----------+--------+-----------+-------+-------+
4 rows in set (0.0006 sec)
MySQL  localhost:3306 ssl  college_db  ★ SQL > savepoint college_save;
Query OK, 0 rows affected (0.0004 sec)
MySQL  localhost:3306 ssl  college_db  ★ SQL > delete from finals
                             -> where subject_code = 'C01';
Query OK, 4 rows affected (0.0012 sec)
MySQL  localhost:3306 ssl  college_db  ★ SQL > rollback to savepoint college_save;
Query OK, 0 rows affected (0.0006 sec)
MySQL  localhost:3306 ssl  college_db  ★ SQL > select * from finals;
+---------------------+--------------+--------------------+----------+--------+-----------+-------+-------+
| Registration_Number | Subject_Code | Subject_Name       | Semester | Theory | Practicals| Total | Grade |
+---------------------+--------------+--------------------+----------+--------+-----------+-------+-------+
| CSC01               | C01          | Design Of Analysis |       1  |    70  |       35  |  100  | A++   |
| CSC02               | C01          | Design Of Analysis |       1  |    55  |       29  |   90  | A     |
| CSC03               | C01          | Design Of Analysis |       1  |    40  |       19  |   68  | C     |
| CSC04               | C01          | Design Of Analysis |       1  |    20  |       19  |   40  | D     |
+---------------------+--------------+--------------------+----------+--------+-----------+-------+-------+
4 rows in set (0.0006 sec)
```

```
MySQL  localhost:3306 ssl  college_db  SQL > select Students.Student_Name, Internals.Test_1
                             -> from Students
                             -> right join Internals on Internals.Registration_Number = Students.Registration_Number
                             -> order by Students.Age desc;

+--------------+--------+
| Student_Name | Test_1 |
+--------------+--------+
| Sudeep       |     16 |
| Adelicia     |     25 |
| Celesta      |     20 |
+--------------+--------+
3 rows in set (0.0009 sec)
```

5. Locking

```
Start transaction;
Lock tables employee write, form__data read;
Select * from employee;
Select * from for_data;
Update form_data set name='shashank3' where email='shashank20022801@gmail.com';
Update employee set name='Kaif' where empID=1;
Select * from person_salary
```

```
mysql> start transaction;
Query OK, 0 rows affected (0.00 sec)

mysql> lock tables employee write, form_data read;
Query OK, 0 rows affected (0.00 sec)

mysql> select * from employee;
+-------+-------+-----+--------+--------+
| empID | name  | age | gender | salary |
+-------+-------+-----+--------+--------+
| 1     | kaif  | 21  | male   | 500000 |
| 2     | Anand | 22  | male   | 500001 |
| 4     | Ady   | 21  | female | 500000 |
+-------+-------+-----+--------+--------+
3 rows in set (0.00 sec)

mysql> select * from form_data;
+-----------+---------------------------+
| name      | email                     |
+-----------+---------------------------+
| shashank  | shashank200801@gmail.com  |
| shashank2 | shashank20022801@gmail.com |
| shashank2 | shashank20022801@gmail.com |
+-----------+---------------------------+
3 rows in set (0.00 sec)

mysql> update employee set name='shashank3' where email='shashank20022801@gmail.com';
ERROR 1054 (42S22): Unknown column 'email' in 'where clause'
mysql> update form_data set name='shashank3' where email='shashank20022801@gmail.com';
ERROR 1099 (HY000): Table 'form_data' was locked with a READ lock and can't be updated
mysql> update employee set name='Kaif' where empID=1;
Query OK, 1 row affected (0.01 sec)
Rows matched: 1  Changed: 1  Warnings: 0

mysql> select * from person_salary;
ERROR 1100 (HY000): Table 'person_salary' was not locked with LOCK TABLES
mysql> commit;
Query OK, 0 rows affected (0.00 sec)
```

```
mysql> select * from person_salary;
+-------+-------+--------+
| empID | name  | salary |
+-------+-------+--------+
| 1     | Kaif  | 500000 |
| 2     | Anand | 500001 |
| 4     | Ady   | 500000 |
+-------+-------+--------+
3 rows in set (0.00 sec)
```

6. Preparing Application for execution using a front end tool

  (i)   Design a form in HTML

  (ii)   Create a table in MySQL

  (iii) Use PHP to connect the content of the form to the MySQL database

index.html

```html
<!DOCTYPE html>
<html>
  <head>
    <title>Registration Page</title>
    <link rel="stylesheet" type="text/css" href="css/bootstrap.css" />
  </head>
  <body>
    <div class="container">
      <div class="row col-md-6 col-md-offset-3">
        <div class="panel panel-primary">
          <div class="panel-heading text-center">
            <h1>Registration Form</h1>
          </div>
          <div class="panel-body">
            <form action="connect.php" method="post">
              <div class="form-group">
                <label for="firstName">First Name</label>
                <input
                  type="text"
                  class="form-control"
                  id="firstName"
                  name="firstName"
                />
              </div>
              <div class="form-group">
                <label for="lastName">Last Name</label>
                <input
                  type="text"
                  class="form-control"
                  id="lastName"
                  name="lastName"
                />
              </div>
              <div class="form-group">
                <label for="gender">Gender</label>
                <div>
                  <label for="male" class="radio-inline"
                    ><input
                      type="radio"
                      name="gender"
                      value="m"
                      id="male"
                    />Male</label
                  >
```

```html
                <label for="female" class="radio-inline"
                  ><input
                    type="radio"
                    name="gender"
                    value="f"
                    id="female"
                  />Female</label
                >
                <label for="others" class="radio-inline"
                  ><input
                    type="radio"
                    name="gender"
                    value="o"
                    id="others"
                  />Others</label
                >
              </div>
            </div>
            <div class="form-group">
              <label for="email">Email</label>
              <input
                type="text"
                class="form-control"
                id="email"
                name="email"
              />
            </div>
            <div class="form-group">
              <label for="password">Password</label>
              <input
                type="password"
                class="form-control"
                id="password"
                name="password"
              />
            </div>
            <div class="form-group">
              <label for="number">Phone Number</label>
              <input
                type="number"
                class="form-control"
                id="number"
                name="number"
              />
            </div>
            <input type="submit" class="btn btn-primary" />
          </form>
        </div>
        <div class="panel-footer text-right">
          <small>&copy; Technical Babaji</small>
        </div>
      </div>
    </div>
</div>
<div class="toast" role="alert" aria-live="assertive" aria-atomic="true">
```

```html
  <div class="toast-header">
    <img src="..." class="rounded mr-2" alt="...">
    <strong class="mr-auto">Bootstrap</strong>
    <small>11 mins ago</small>
    <button type="button" class="ml-2 mb-1 close" data-dismiss="toast" aria-
label="Close">
      <span aria-hidden="true">&times;</span>
    </button>
  </div>
  <div class="toast-body">
    Hello, world! This is a toast message.
  </div>
</div>
  </body>
</html>
```

connect.php

```php
<?php
        $firstName = $_POST['firstName'];
        $lastName = $_POST['lastName'];
        $gender = $_POST['gender'];
        $email = $_POST['email'];
        $password = $_POST['password'];
        $number = $_POST['number'];

        // Database connection
        $conn = new mysqli('localhost','root','','test');
        if($conn->connect_error){
                echo "$conn->connect_error";
                die("Connection Failed : ". $conn->connect_error);
        } else {
                $stmt = $conn->prepare("insert into registration(firstName,
                lastName, gender, email, password, number) values(?, ?, ?, ?, ?,
                ?)");
                $stmt->bind_param("sssssi", $firstName, $lastName, $gender, $email,
                 $password, $number);
                $execval = $stmt->execute();
                echo $execval;
                echo "Registration successfully...";
                $stmt->close();
                $conn->close();
        }
?>
```

Output

Registration Form

First Name

Adelicia

Last Name

Sequeira

Gender

○ Male ● Female ○ Others

Email

a.seq2804@gmail.com

Password

••••••••••

Phone Number

8247474661

Submit

```
PS C:\Users\Adelicia\Documents\Academics\Projects\database_connection_php> mysqlsh
MySQL Shell 8.0.32

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Type '\help' or '\?' for help; '\quit' to exit.
 MySQL  JS > \sql
Switching to SQL mode... Commands end with ;
 MySQL  SQL > \connect root@localhost:3306
Creating a session to 'root@localhost:3306'
Fetching global names for auto-completion... Press ^C to stop.
Your MySQL connection id is 20
Server version: 8.0.32 MySQL Community Server - GPL
No default schema selected; type \use <schema> to set one.
 MySQL  localhost:3306 ssl  SQL > show databases;
+--------------------+
| Database           |
+--------------------+
| college            |
| college_db         |
| form_info          |
| information_schema |
| mysql              |
| performance_schema |
| sakila             |
| sys                |
| test               |
| world              |
+--------------------+
10 rows in set (0.0038 sec)
```

```
 MySQL  localhost:3306 ssl  SQL > use form_info
Default schema set to `form_info`.
Fetching global names, object names from `form_info` for auto-completion... Press ^C to stop.
 MySQL  localhost:3306 ssl  form_info  SQL > select * from user_info
                                        -> ;
+-----------+----------+--------+---------------------+-----------+------------+
| firstName | lastName | gender | email               | password  | number     |
+-----------+----------+--------+---------------------+-----------+------------+
| Adelicia  | Sequeira | F      | a.seq2804@gmail.com | adyishere | 8247474661 |
+-----------+----------+--------+---------------------+-----------+------------+
1 row in set (0.0010 sec)
```