SACRED HEART COLLEGE

(AUTONOMOUS)

B.Sc. COMPUTER APPLICATIONS

PRACTICAL RECORD

*Name*_____

*Class*_____*Roll No.* _____

*Reg. No.*_____*Year*_____

Certified that this is a bonafide record of practical work done in _____*of B.Sc. Computer Application Course during the period*_____.

(Office Seal)   *Lecture in charge*

*Submitted for the University Practical Examination held on*_____*20__*

Date: *External Examiner*

Contents

1 Simple Html Page

1.1 Aim

- Design a webpage for your department.

- Utilize paragraphs and lists.

- Create links of the words Wifi and LAN to their respective wikipedia pages

- Insert an image that redirects to the college website

- Change the background color and create a link at the bottom to return to the top

1.2 Code

```html
<!DOCTYPE html>
<html>
  <head>
    <title>
      Simple Html Page
    </title>
    <style>
      body {
        font-family: Arial, Helvetica, sans-serif;
        background: #eff1f5;
        color: #4c4f69;
        font-size: 1.3em;
      }
      body::-webkit-scrollbar { display: none;}
      .container {
        display: flex;
        flex-direction: column;
        justify-content: center;
        align-items: center;
        background-color: #e6e9ef;
        border-radius: 8px;
        padding: 0.5em;
        gap: 3px;
      }
      .dark {
        background-color: #dce0e8;
      }
      a {
        color: #dc8a78;
      }
      #college-img {
        background-image: url('https://www.shcollege.ac.in/wp-content/uploads/2020/11
        ↪  /mc-scaled.jpg');
        background-repeat: no-repeat;
        background-position: center;
        width: 90vw;
        height: 50vh;
        border-radius: inherit;
      }
      li {
        margin-right: 0.9em;
      }
    </style>
```

```html
    </head>
    <body>
      <a id="top"></a>
      <div class="container">
        <h1>
          <u>The Computer Science Department</u>
        </h1>
        <p style="width: 80%; text-align: center;">
          The <b>Computer Science Department</b> of Sacred Heart College, Thevara was
          ↪   established in 2001.
          And since have molded industry leading professionals. Orientations are held
          ↪   periodically to discuss advancements and
          rising trends in the field enabling understanding of cutting-edge
          ↪   technologies. Students are provided with campus wide
          <a href="https://en.wikipedia.org/wiki/Wi-Fi">Wi-Fi</a> available to their
          ↪   portable devices and Computer Systems
          constituting a <a
          ↪   href="https://en.wikipedia.org/wiki/Local_area_network">Local Area
          ↪   Network</a>
        </p>
        <p style="font-weight: 550;">
          The Department offers the following programs:
          <div class="container dark">
            <ul>
              <li><b>B.Sc. Computer Applications</b> (Triple Main incl. Mathematics &
              ↪   Statistics)</li>
              <li><b>B. Computer Applications</b> (BCA: Mobile Applications and Cloud
              ↪   technologies)</li>
              <li><b>M. Sc. Integrated Computer Science</b> (Data Science)</li>
            </ul>
          </div>
        </p>
        <a id="college-img" href="https://www.shcollege.ac.in/">
        </a>
        <a href="#top" style="margin-top: 10px;">Back to top</a>
      </div>
    </body>
</html>
```

1.3 Output

2 Time Table

2.1 Aim

- Design the class time table in HTML using table tag

2.2 Code

```html
<!DOCTYPE html>
<html>
  <head>
    <title>
      time table
    </title>
    <style>
      :root { --flamingo: #dd7878; }
      body {
        font-family: Arial, Helvetica, sans-serif;
        color: #4c4f69;
        font-size: 1.3em;
      }
      table {
        overflow: none;
        border-collapse: collapse;
        border-color: var(--flamingo);
      }
      th, td, tr {
        padding: 10px;
        border-top: solid;
        border-left: solid;
        border-right: solid;
        border-width: 2px;
      }
      tr, td {
        border-bottom: solid;
        text-align: center;
        border-color: inherit;
        color: var(--flamingo);
      }
      .flamingo {
        background-color: var(--flamingo);
        color: snow;
      }
      .center {
        width: 100%;
        height: 98vh;
        display: flex;
        flex-direction: column;
        justify-content: center;
        align-items: center;
      }
      .down {
        writing-mode: vertical-lr;
        text-orientation: upright;
        font-size: 1.4em;
        letter-spacing: 8px;
        color: snow;
        background-color: var(--flamingo);
```

```html
        }
      </style>
    </head>
  <body>
    <div class="center">
      <table>
        <th colspan="7"> B.Sc. Computer Application S4</th>
        <tr>
          <td class="flamingo">Monday</td>
          <td>Differential</td>
          <td>DBMS</td>
          <td>AWT</td>
          <td rowspan="5" class="down">BREAK</td>
          <td>Stat</td>
          <td>Sampling</td>
        </tr>
        <tr>
          <td class="flamingo">Tuesday</td>
          <td>Sampling</td>
          <td>Differential</td>
          <td>Sampling</td>
          <td>AWT</td>
          <td>Stat</td>
        </tr>
        <tr>
          <td class="flamingo">Wednesday</td>
          <td>Stat</td>
          <td>DBMS</td>
          <td>AWT</td>
          <td>Sampling</td>
          <td>Sampling</td>
        </tr>
        <tr>
          <td class="flamingo">Thursday</td>
          <td>Differential</td>
          <td>Differential</td>
          <td>DBMS</td>
          <td>Stat</td>
          <td>AWT</td>
        </tr>
        <tr>
          <td class="flamingo">Friday</td>
          <td>Stat</td>
          <td>DBMS</td>
          <td>Differential</td>
          <td>LAB</td>
          <td>LAB</td>
        </tr>
      </table>
    </div>
  </body>
</html>
```

2.3 Output

B.Sc. Computer Application S4						
Monday	Differential	DBMS	AWT	B	Stat	Sampling
Tuesday	Sampling	Differential	Sampling	R	AWT	Stat
Wednesday	Stat	DBMS	AWT	E	Sampling	Sampling
Thursday	Differential	Differential	DBMS	A	Stat	AWT
Friday	Stat	DBMS	Differential	K	LAB	LAB

3 CSS

3.1 Aim

- utlize inline css for appending styles to html elements

- utilize an external css stylesheet

3.2 Code

```html
<!DOCTYPE html>
<html>
  <head>
    <title>
      Cascading Style Sheets
    </title>
    <link rel="stylesheet" href="styles.css">
  </head>
  <body>
    <div class="container">
      <h1 style="color: #dc8a78;"> <u>Cats are the best</u> </h1>
      <p class="rose">
        Cats, with their enigmatic grace and independent spirit, have captivated human
        ↪    hearts for millennia. Their slender
        bodies adorned with sleek fur, often in a myriad of colors and patterns, exude
        ↪    elegance and agility. From the regal
        posture of a Siamese to the fluffy charm of a Maine Coon, each breed carries
        ↪    its own unique allure. Their eyes, like
        orbs of liquid gold or emerald pools, reflect an intelligence and curiosity
        ↪    that seem to pierce through the soul,
        hinting at the depths of their mysterious nature.
        <img src="https://i.pinimg.com/originals/7c/e9/24/7ce9242425aeacfccde52df4cc2⌋
        ↪    07c90.jpg" alt="" width="150px" style="border-radius:
        ↪    8px;">
      </p>
      <p class="pink">
        <img src="https://i.pinimg.com/736x/ed/38/08/ed38082f612fefb0ba51abc84178a797⌋
        ↪    .jpg" alt="" width="150px" style="border-radius:
        ↪    8px;">
        Beyond their physical beauty, cats possess a remarkable array of behaviors and
        ↪    characteristics that further endear them
        to humans. Their unparalleled agility and reflexes make them formidable
        ↪    hunters, capable of executing acrobatic feats
        with precision and stealth. Yet, juxtaposed with this predatory prowess is
        ↪    their gentle and affectionate side. Cats have
        an innate ability to form deep bonds with their human companions, often
        ↪    displaying acts of loyalty and companionship
        that defy their reputation for aloofness.
      </p>
      <p class="lavender">
        One of the most fascinating aspects of cats is their complex communication
        ↪    system. From the subtle twitch of an ear to
        the melodious purr of contentment, they have mastered the art of conveying
        ↪    their emotions without uttering a single
        word. Their repertoire of vocalizations, ranging from plaintive meows to
        ↪    thunderous yowls, serves as a means of
        expressing desires, seeking attention, or issuing warnings. Furthermore, their
        ↪    body language, including tail flicks,
```

```
              kneading paws, and arched backs, provides additional insight into their mood
              ↪   and intentions.
              <img src="https://i.pinimg.com/474x/26/79/43/26794354f259b5bb807e870cef23fceb⌋
              ↪    .jpg" alt="" width="150px" style="border-radius:
              ↪    8px;">
          </p>
          <p class="maroon">
              <img src="https://i.pinimg.com/originals/fa/99/de/fa99deb4b20e3a419aaafcd8503⌋
              ↪    abbdc.jpg" alt="" width="150px" style="border-radius:
              ↪    8px;">
              In addition to their charm and charisma, cats also offer a plethora of
              ↪    benefits to their human counterparts. Numerous
              studies have highlighted the positive impact of cat ownership on mental
              ↪    health, with their soothing presence and
              affectionate companionship serving as sources of comfort and stress relief.
              ↪    Furthermore, their playful antics and
              inquisitive nature bring joy and laughter into the lives of their owners,
              ↪    fostering a sense of happiness and well-being.
              Whether curled up contentedly in a sunbeam or engaged in a spirited game of
              ↪    chase, cats have a remarkable ability to
              enrich the lives of those fortunate enough to share their company.
          </p>
      </div>
  </body>
</html>
```

external stylesheet

```
body {
  font-family: Arial, Helvetica, sans-serif;
  font-size: 1.3em;
}
body::-webkit-scrollbar { display: none;}

.container {
  display: flex;
  flex-direction: column;
  justify-content: center;
  align-items: center;
  padding: 50px;
  gap: 15px;
}
p {
  all: unset;
  border-radius: 8px;
  display: flex;
  align-items: center;
  padding: 10px;
  gap: 15px;
}
.rose {
  box-shadow: 5px 6px 5px #dc8a78;
}
.pink {
  box-shadow: 5px 6px 5px #ea76cb;
}
.lavender {
  box-shadow: 5px 6px 5px #7287fd;
```

```
}
.maroon {
  box-shadow: 5px 6px 5px #e64553;
}
```

3.3   Output

Cats are the best

Cats, with their enigmatic grace and independent spirit, have captivated human hearts for millennia. Their slender bodies adorned with sleek fur, often in a myriad of colors and patterns, exude elegance and agility. From the regal posture of a Siamese to the fluffy charm of a Maine Coon, each breed carries its own unique allure. Their eyes, like orbs of liquid gold or emerald pools, reflect an intelligence and curiosity that seem to pierce through the soul, hinting at the depths of their mysterious nature.

Beyond their physical beauty, cats possess a remarkable array of behaviors and characteristics that further endear them to humans. Their unparalleled agility and reflexes make them formidable hunters, capable of executing acrobatic feats with precision and stealth. Yet, juxtaposed with this predatory prowess is their gentle and affectionate side. Cats have an innate ability to form deep bonds with their human companions, often displaying acts of loyalty and companionship that defy their reputation for aloofness.

One of the most fascinating aspects of cats is their complex communication system. From the subtle twitch of an ear to the melodious purr of contentment, they have mastered the art of conveying their emotions without uttering a single word. Their repertoire of vocalizations, ranging from plaintive meows to thunderous yowls, serves as a means of expressing desires, seeking attention, or issuing warnings. Furthermore, their body language, including tail flicks, kneading paws, and arched backs, provides additional insight into their mood and intentions.

In addition to their charm and charisma, cats also offer a plethora of benefits to their human counterparts. Numerous studies have highlighted the positive impact of cat ownership on mental health, with their soothing presence and affectionate companionship serving as sources of comfort and stress relief. Furthermore, their playful antics and inquisitive nature bring joy and laughter into the lives of their owners, fostering a sense of happiness and well-being. Whether curled up contentedly in a sunbeam or engaged in a spirited game of chase, cats have a remarkable ability to enrich the lives of those fortunate enough to share their company.

4 Form

4.1 aim

- Create a simple form

- with fields name age address etc.

- include radio buttons checkboxes and a password field

4.2 Code

```html
<html>
  <head>
    <title>Form</title>
    <script src="https://cdn.tailwindcss.com"></script>
  </head>
  <body>
    <section class="w-full h-screen flex flex-col justify-center items-center">
      <h1 class="text-3xl text-blue-400 font-semibold mb-2"> Form </h1>
      <form class="bg-slate-100 flex flex-col p-3 rounded-lg gap-1">
        <div class="flex flex-row justify-between">
          Full name:
          <input type="text" name="fullname"
            class="text-center"
          />
        </div>

        <div class="flex flex-row justify-between">
          <p class="self-start">Gender: </p>
          <div class="flex flex-row gap-3 justify-evenly">
            <input type="radio" name="gender" value="male" class="">male</input>
            <input type="radio" name="gender" value="female">female</input>
            <input type="radio" name="gender" value="other">other</input>
          </div>
        </div>

        <div class="flex flex-row justify-between">
          Date of Birth:
          <input type="date" name="dob"/>
        </div>

        <div class="flex flex-row justify-between">
          Address:
          <input type="text" name="address"
            class="text-center"/>
        </div>

        <div class="flex flex-row justify-between gap-3">
          Favourite Language:
          <input type="checkbox" name="sub" value="Java">Java</input>
          <input type="checkbox" name="sub" value="PHP">C</input>
          <input type="checkbox" name="sub" value="Rust">Rust</input>
        </div>

        <div class="flex flex-row justify-between">
          Favourite Singer:
          <input type="text" name="singer"
            class="text-center"
```

```html
          />
        </div>

        <div class="flex flex-row justify-between">
          Favourite Movie:
          <input type="text" name="movie"
            class="text-center"
          />
        </div>

        <div class="flex flex-row justify-between">
          Email Id:
          <input type="email" name="email"
            class="text-center"
          />
        </div>

        <div class="flex flex-row justify-between">
          Password:
          <input type="password" name="pasw"
            class="text-center"
          />
        </div>

        <input
          class="bg-slate-300 hover:bg-slate-200 p-3 mt-2 rounded-md cursor-pointer"
          type="submit" value="Submit"
        >
      </form>
    </section>
  </body>
</html>
```

4.3 Output

5   Semester Re-registration Webpage

5.1   Aim

- Design a form with the following entries

- Enrolment No.

- Regional Centre Code (Drop-down)

- Study Centre Code (Drop-down)

- Semester (Drop-down)

- Email Id

5.2   Code

```html
<html>
  <head>
    <title>Re-registeration Form</title>
    <script src="https://cdn.tailwindcss.com"></script>
  </head>
  <body>
    <section class="w-full h-screen flex flex-col justify-center items-center">
      <h1 class="text-3xl text-blue-400 font-semibold mb-2">Semester Re-register</h1>
      <form class="bg-slate-100 flex flex-col p-3 rounded-lg gap-1 drop-shadow-md">
        <div class="flex flex-row justify-between gap-3">
          Enrollment number:
          <input type="text" required class="text-center">
        </div>
        <div class="flex flex-row justify-between gap-3">
          Regional centre code:
          <select name="rcc" required>
            <option value="1001">1001</option>
            <option value="1002">1002</option>
            <option value="1003">1003</option>
          </select>
        </div>

        <div class="flex flex-row justify-between gap-3">
          Study centre code:
          <select name="scc" required>
            <option value="s1">s1</option>
            <option value="s2">s2</option>
            <option value="s3">s3</option>
          </select>
        </div>

        <div class="flex flex-row justify-between gap-3">
          Semester:
          <select name="semester" required>
            <option value=1>1</option>
            <option value=2>2</option>
            <option value=3>3</option>
          </select>
        </div>

        <div class="flex flex-row justify-between gap-3">
          Email-id:
```

```
          <input type="email" required class="text-center">
        </div>
        <input type="submit"
          class="bg-slate-300 hover:bg-slate-200 w-fit p-3 self-center rounded-md mt-2
          ↪  cursor-pointer"
        />
      </form>
    </section>
  </body>
</html>
```

5.3   Output

6 Profit or Loss

6.1 Aim

- Write a JavaScript solution for the following

- Accept the cost price and selling price with a button

- Create a button to calculate the loss or profit and display it

6.2 Code

```html
<!DOCTYPE html>
<html>
  <head>
    <title>Profit Calculator</title>
    <script src="https://cdn.tailwindcss.com"></script>
  </head>
  <body>
    <section class="w-full h-screen flex flex-col justify-center items-center">
      <h1 class="text-orange-400 text-3xl font-semibold mb-2">Profit Calculator</h1>
      <div class="bg-slate-100 flex flex-col p-4 gap-1 rounded-lg">
        <div class="flex flex-row justify-evenly gap-2 w-52">
          <button
            type="button" onclick="get()"
            class="bg-slate-300 rounded-lg p-3 hover:bg-slate-200 active:bg-slate-400"
          >
            Input
          </button>
          <button
            type="button" onclick=profit()
            class="bg-slate-300 rounded-lg p-3 hover:bg-slate-200 active:bg-slate-400"
          >
            Output
          </button>
        </div>
        <p
          id="output"
          class="text-orange-400 text-xl text-center font-semibold font-sans"
        ></p>
      </div>
    </section>
    <script>
      var profit_amt = 0;
      var sell_price = 0;
      var cost_price = 0;

      function profit() {
        profit_amt = ((sell_price - cost_price)/cost_price ) * 100;
        let result = "";
        if (profit_amt > 0) {
          result = "Your profit is " + profit_amt + "%"
        } else {
          result = "Your loss is " + profit_amt + "%"
        }
        document.getElementById("output").innerHTML = result;
      }

      function get() {
```

```
        cost_price = prompt("Enter Cost Price");
        sell_price = prompt("Enter Selling Price");
      }
    </script>
  </body>
</html>
```

6.3   Output

7 Electrical Connection Form

7.1 Aim

- Create a form with the following fields

- Permanent or temporary connection (radio button)

- Government or Private house (radio button)

- Name and Email

7.2 Code

```html
<!DOCTYPE html>
<html>
  <head>
    <title>Electric Form</title>
    <script src="https://cdn.tailwindcss.com"></script>
  </head>
  <body>
    <section class="w-full h-screen flex flex-col justify-center items-center">
      <h1 class="mb-2 text-3xl text-orange-400 font-semibold">
        Electrical Connection Form
      </h1>
      <form
        class="bg-slate-100 flex flex-col p-4 gap-1 rounded-lg"
        id="myform"
        onsubmit=validate()
      >
        <p class="font-semibold">
          Specify Connection Type:
        </p>
        <div class="flex flex-row gap-3">
          <input name="connection" type="radio" value="temp" >
            temporary
          </input>
          <input name="connection" type="radio" value="perm" >
            permanent
          </input>
        </div>

        <p class="font-semibold">
          Specify House Type:
        </p>
        <div class="flex flex-row gap-3">
          <input name="house" type="radio" value="gov" >
            government house
          </input>
          <input name="house" type="radio" value="private" >
            private house
          </input>
        </div>
        <div class="flex flex-row justify-between">
          <p class="font-semibold">Name:</p>
          <input
            class="w-3/4 rounded-md text-center"
            type="text"
            placeholder=" Enter your name"
```

```
      />
    </div>
    <div class="flex flex-row justify-between">
      <p class="font-semibold">Email:</p>
      <input
        class="w-3/4 rounded-md text-center"
        type="email"
        placeholder=" Enter your email"
      />
    </div>
    <input
      class="bg-slate-300 w-fit self-center p-2 rounded-l mt-3 font-semibold
      ↪   cursor-pointer hover:bg-slate-200"
      type="submit" value="Submit"
    />
  </form>
</section>
<script>
  function validate() {
    let form = document.getElementById("myform");
    for (let input of form.elements) {
      if (input.value == "") {
        alert("Kindly fill all values");
        return;
      }
    }
    alert("Form Submitted Succesfully");
  }
</script>
</body>
</html>
```

7.3 Output

Electrical Connection Form

Specify Connection Type:

○ temporary ◉ permanent

Specify House Type:

○ government house ◉ private house

Name: Solo Stin

Email: solol@steelmail.com

Submit

8 Word Search

8.1 Aim

- Write a JavaScript Program to search for a word in a sentence
- the search should be performed when a appropriate button is clicked

8.2 Code

```html
<!DOCTYPE html>
<html>
  <head>
    <title>Word Finder</title>
    <script src="https://cdn.tailwindcss.com"></script>
  </head>
  <body>
    <section class="w-full h-screen flex flex-col justify-center items-center">
      <h1 class="text-pink-400 font-semibold text-3xl text-center mb-2">
        Word Finder
      </h1>
      <div class="bg-slate-100 flex flex-col p-4 gap-1 rounded-lg w-96">
        <p class="font-semibold">Enter your sentence</p>
        <input type="text" id="sentence" class="text-center"/>
        <p class="font-semibold">Enter the word to search</p>
        <input type="text" id="word" class="text-center text-orange-400"/>

        <button
          class="p-2 bg-slate-300 hover:bg-slate-200 w-32 self-center rounded-md mt-3
          ↪  text-xl"
          onclick=result()
        > Find </button>

        <p id="output" class="text-xl text-center mt-2"></p>
      </div>
    </section>
    <script>
      function result() {
        let sentence = document.getElementById("sentence").value.trim();
        let search_word = document.getElementById("word").value.trim();

        let output = document.getElementById("output");
        for (let word of sentence.split(" ")) {
          if (word == search_word) {
            output.innerHTML = "The word <a class='text-orange-400'>"
              + word +
              "</a> is found in the string";
            return;
          }
        }
        output.innerHTML = "Could not find the word inside string";
      }
    </script>
  </body>
</html>
```

8.3 Output

Word Finder

Enter your sentence

Once upon a time there lived a cute cat

Enter the word to search

cat

Find

The word cat is found in the string

Word Finder

Enter your sentence

Once upon a time there lived a cute cat

Enter the word to search

girl

Find

Could not find the word inside string

9   Prime and Armstrong

9.1   Aim

- Write a program to determine whether a number is Armstrong or Prime

9.2   Code

```html
<!DOCTYPE html>
<html>
  <head>
    <title>Prime or Armstrong?</title>
    <script src="https://cdn.tailwindcss.com"></script>
  </head>
  <body>
    <section class="w-full h-screen flex flex-col justify-center items-center">
      <h1 class="text-pink-400 font-semibold text-3xl text-center mb-2">
        Prime or Armstrong
      </h1>
      <div class="bg-slate-100 flex flex-col p-4 gap-1 rounded-lg w-96">
        <div class="flex flex-row p-2 gap-1 justify-around">
          <p class="font-semibold">Enter a number</p>
          <input type="number" id="number" class="text-center"/>
        </div>
        <div class="flex flex-row p-2 gap-3 justify-center">
          <button
            class="p-2 bg-slate-300 hover:bg-slate-200 w-32 rounded-md text-xl"
            onclick=is_prime()
          > Prime? </button>
          <button
            class="p-2 bg-slate-300 hover:bg-slate-200 w-32 rounded-md text-xl"
            onclick=is_armstrong()
          > Armstrong? </button>
        </div>

        <p id="output" class="text-xl text-center mt-2"></p>
      </div>
    </section>
    <script>
      let output = document.getElementById("output");

      function is_prime() {
        let num = document.getElementById("number").value;
        for (let i = 2; i < num/2; i++) {
          if (num % i == 0) {
            output.innerHTML = num + " is NOT prime";
            return;
          }
        }
        output.innerHTML = "<a class='text-pink-400 font-semibold'>" + num + " is
        ↪  PRIME </a>";
      }

      function is_armstrong() {
        let num = document.getElementById("number").value;
        let str_num = String(num);
        let exponent = str_num.length;
```

```javascript
      let result = 0;

      for (let ch of str_num.split("")) {
        result += Number(ch) ** exponent;
      }

      if (result == num) {
        output.innerHTML = "<a class='text-pink-400 font-semibold'>" + num + " is
        ↪  ARMSTRONG</a>";
      } else {
        output.innerHTML = num + " is NOT armstrong</a>";
      }
    }
  </script>
  </body>
</html>
```

9.3 Output

10   Fibonacci Series

10.1   Aim

- Write a program to display the first n terms of the Fibonacci series

10.2   Code

```html
<html>
  <head>
    <title>Fibonacci Series</title>
    <script src="https://cdn.tailwindcss.com"></script>
  </head>
  <body>
    <section class="w-full h-screen flex flex-col justify-center items-center">
      <h1 class="text-pink-400 font-semibold text-3xl text-center mb-2">
        Fibonacci Series
      </h1>
      <div class="bg-slate-100 flex flex-col p-3 gap-2 rounded-lg w-96">
        <div class="flex flex-row justify-evenly">
          <p class="font-semibold">Enter the number of terms</p>
          <input class="text-center w-32" type="number" id="number"/>
        </div>
        <button
          class="p-2 bg-slate-300 hover:bg-slate-200 w-32 self-center rounded-md
          ↪  text-xl"
          onclick=getseries()
        > Find </button>
        <p id="output" class="text-xl text-center"></p>
      </div>
    </section>
    <script>
      function getseries() {
        let output = "";
        let number = document.getElementById("number").value;
        for (let i = 0; i < number; i++) {
          output += fibo(i) + " ";
        }
        document.getElementById("output").innerHTML = output;
      }
      function fibo(num) {
        return (num < 2)? num : fibo(num-1) + fibo(num-2);
      }
    </script>
  </body>
</html>
```

10.3   Output

11 University Login

11.1 Aim

- Create a login page

- with fields name and enrollment number

- After submitting information, redirect to a welcome page

11.2 Code

index.html

```html
<html>
  <head>
    <title>University Login</title>
    <script src="https://cdn.tailwindcss.com"></script>
  </head>
  <body>
    <section class="w-full h-screen flex flex-col justify-center items-center">
      <h1 class="mb-2 text-3xl text-lime-400 font-semibold">
        Login
      </h1>
      <form
        class="bg-slate-100 flex flex-col p-4 gap-1 rounded-lg"
        action=login.html
        method="get"
      >
        <div class="flex flex-row justify-between">
          <p class="font-semibold">Name:</p>
          <input
            class="w-3/4 rounded-md text-center"
            name="name"
            type="text" required
          />
        </div>
        <div class="flex flex-row justify-between">
          <p class="font-semibold">Enrollment No.:</p>
          <input
            class="w-2/4 rounded-md text-center"
            type="number"  required
          />
        </div>
        <input
          class="bg-slate-300 w-fit self-center p-2 rounded-md mt-3 font-semibold
          ↪  cursor-pointer hover:bg-slate-200"
          type="submit" value="Submit"
        />
      </form>
    </section>
  </body>
</html>
```

login.html

```html
<html>
  <head>
    <title>University Login</title>
    <script src="https://cdn.tailwindcss.com"></script>
  </head>
  <body>
    <section class="w-full h-screen flex flex-col justify-center items-center">
      <h1 class="mb-2 text-6xl text-slate-800 font-semibold">
        Welcome <a class="text-lime-300" id="name"></a>
      </h1>
      <h1 class="mb-2 text-xl text-slate-700 font-semibold">
        Login Successful
      </h1>
    </section>
    <script>
      let url = window.location.href;
      url = url
        .split('?')[1]
        // regex for removing + from GET
        .split('=')[1].replace(/\+/g, ' ');
      document.getElementById("name").innerHTML = url;
    </script>
  </body>
</html>
```
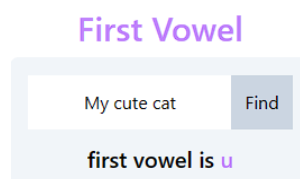
11.3   Output

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12 First Vowel

12.1 Aim

- Write a JavaScript program to find the first vowel in a string

12.2 Code

```html
<html>
  <head>
    <title>First Vowel</title>
    <script src="https://cdn.tailwindcss.com"></script>
  </head>
  <body>
    <section class="w-full h-screen flex flex-col justify-center items-center">
      <h1 class="text-3xl font-semibold text-purple-400 mb-2">First Vowel</h1>
      <div class="bg-slate-100 flex flex-col p-4 gap-1 rounded-lg">
        <div class="flex flex-row">
          <input
            class="text-center"
            placeholder="Enter a String"
            id="input"
          />
          <button
            class="bg-slate-300 hover:bg-slate-200 p-3"
            onclick=firstvowel()
          > Find </button>
        </div>
        <p id="output" class="text-xl font-semibold text-center mt-2"></p>
      </div>
    </section>
    <script>
    function firstvowel() {
      let input = document.getElementById("input").value;
      let output = document.getElementById("output");
      let style = "<a class='text-purple-400'>";

      for (let ch of input.split("")) {
        if ("aeiouAEIOU".includes(ch)) {
          output.innerHTML = "first vowel is " + style + ch + "</a>";
          return;
        }
      }
      output.innerHTML = "No vowels found";
    }
    </script>
  </body>
</html>
```

12.3 Output

13 Basic Calculator

13.1 Aim

- Write a JavaScript program implementing a Simple Calculator

13.2 Code

```html
<html>
  <head>
    <title>Basic Calculator</title>
    <script src="https://cdn.tailwindcss.com"></script>
  </head>
  <body>
    <section class="w-full h-screen flex flex-col justify-center items-center">
      <h1 class="text-3xl font-semibold text-teal-400 mb-2">Calculator</h1>
      <div class="bg-slate-100 flex flex-col p-4 gap-1 rounded-lg">
        <div class="flex flex-row rounded-md overflow-hidden">
          <input
            class="text-center"
            placeholder="Enter Expression"
            id="input"
          />
          <button
            class="bg-slate-300 hover:bg-slate-200 p-3 active:bg-slate-400"
            onclick=compute()
          > Find </button>
        </div>
        <p id="output" class="text-xl text-center mt-2"></p>
      </div>
    </section>
    <script>
    function compute() {
      let input = document.getElementById("input")
        .value.trim().split(' ');
      let output = document.getElementById("output");

      let style = "<a class='text-teal-400'>";
      let result = input[0] + " " + input[1] + " " + input[2] + " = " + style;

      if (input.length != 3) { output.innerHTML = "Invalid Expression"; return; }
      switch (input[1]) {
        case "+": result +=  (Number(input[0]) + Number(input[2])); break;
        case "-": result += Number(input[0]) - Number(input[2]); break;
        case "*": result += Number(input[0]) * Number(input[2]); break;
        case "/": result += Number(input[0]) / Number(input[2]); break;
        default: output.innerHTML = "Invalid Expression"; break;
      }

      output.innerHTML = result + "</a>";
    }
    </script>
  </body>
</html>
```

13.3   Output

Calculator

| 1 + 2 | Find |

1 + 2 = 3

Calculator

| Enter Expression | Find |

Calculator

| 70 - 1 | Find |

70 - 1 = 69

Calculator

| 23 * 3 | Find |

23 * 3 = 69

Calculator

| 480 / 2 | Find |

480 / 2 = 240

14 Company Profile Form

14.1 Aim

- Create a form for entering A company Profile

- The form should have an update button

- update button should update the profile

14.2 Code

```html
<!DOCTYPE html>
<html>
  <head>
    <title>Company information</title>
    <script src="https://cdn.tailwindcss.com"></script>
  </head>
  <body>
    <section class="w-full h-screen flex flex-col justify-center items-center">
      <h1 class="text-3xl font-semibold text-purple-400 mb-2">Company Form</h1>
      <div class="flex flex-row gap-8 items-center">
        <div class="bg-slate-100 flex flex-col p-4 gap-1 rounded-md">
          <p class="font-semibold text-center">Employee Name</p>
          <input
            type="text" id="name" value="Ann Rexi"
            class="text-center" required
          />
          <p class="font-semibold text-center mt-1">Address</p>
          <input
            type="text" id="addr" value="Kochi, Kerala"
            class="text-center" required
          />
          <p class="font-semibold text-center mt-1">Email</p>
          <input
            type="email" id="email" value="annrexie@gmail.com"
            class="text-center" required
          />
          <button
            class="bg-slate-300 hover:bg-slate-200 active:bg-slate-400 p-3
            ↪  cursor-pointer mt-2 rounded-md"
            onclick=update()
          >Update</button>
        </div>
        <div class="bg-slate-100 flex flex-col p-4 text-2xl h-fit rounded-md">
          <p name="output"/>
          <p name="output"/>
          <p name="output"/>
        </div>
      </div>
    </section>
    <script>
      update(); // call once to display initial value
      function update() {
        let name = document.getElementById("name").value;
        let addr = document.getElementById("addr").value;
        let email = document.getElementById("email").value;
        let output = document.getElementsByName("output");
        let style = "<a class='text-pink-400 font-semibold'>"
```

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```
        output[0].innerHTML = "Employee: " + style + name + "</a>"
        output[1].innerHTML = "Address: " + style + addr + "</a>";
        output[2].innerHTML = "Email: " + style + email + "</a>";
      }
    </script>
  </body>
</html>
```

14.3   Output

15 Random Number

15.1 Aim

- Write a JavaScript program to perform the following

- validation checks on text and email fields of a form

- Generate a random number when a Button is clicked

15.2 Code

```html
<html>
  <head>
    <title>Random Number</title>
    <script src="https://cdn.tailwindcss.com"></script>
  </head>
  <body>
    <section class="w-full h-screen flex flex-col justify-center items-center">
      <h1 class="text-3xl font-semibold text-red-400 mb-2">Random Number</h1>
      <div class="bg-slate-100 flex flex-col p-3 rounded-lg">
        <form class="flex flex-row overflow-hidden rounded-s" onsubmit="validate()">
          <div class="flex flex-col">
            <input
              type="text" placeholder="Enter Name"
              class="text-center" name="name"
            />
            <input
              type="email" placeholder="Enter email"
              class="text-center" name="email"
            />
          </div>
          <input type="submit"
            class="bg-slate-300 hover:bg-slate-200 active:bg-slate-400 p-3
            ↪   cursor-pointer"
          />
        </form>
        <div class="flex flex-row rounded-sm overflow-hidden w-fit self-center">
          <button
            class="bg-slate-300 hover:bg-slate-200 active:bg-slate-400 p-3
            ↪   cursor-pointer"
            onclick=random()
          > generate </button>
          <p id="rand"
            class="bg-white flex flex-col justify-center p-3 pl-6 pr-6 text-red-400
            ↪   font-semibold"
          > 84 </p>
        </div>
      </div>
    </section>
    <script>
    document.forms[0].addEventListener("submit", function (e) { e.preventDefault() });
    function random() {
      document.getElementById("rand")
        .innerHTML = Math.floor(Math.random() * 100)
    }
    function validate() {
      let form = document.forms[0];
      if (form["name"].value == "") {
```

```
        alert("Name is empty")
      }
      else if (form["email"].value == "") {
        alert("Email is empty")
      } else {
        alert("Form Submitted")
      }
    }
  </script>
  </body>
</html>
```

15.3 Output

16   Company Login page

16.1   Aim

- Design a login page of a company

- with feilds name and password

- redirect to the company homepage after clicking login

- the homepage must display details of the company

16.2   Code

index.html

```html
<html>
  <head>
    <title>University Login</title>
    <script src="https://cdn.tailwindcss.com"></script>
  </head>
  <body class="bg-[url('https://wallpaperaccess.com/full/3480773.jpg')]">
    <section class="w-full h-screen flex flex-col justify-center items-center">
      <form
        class="bg-slate-950 flex flex-col p-4 gap-3 rounded-md text-white
        ↪  bg-opacity-55 w-1/5"
        action=webpage.html
        method="get"
      >
        <h1 class="mb-4 text-3xl text-amber-500 font-semibold text-center">
          Login
        </h1>
        <div class="flex flex-row justify-between">
          <p class="font-semibold">Name:</p>
          <input
            class="w-3/4 rounded-md text-center bg-transparent border-slate-200
            ↪  border-2"
            name="name"
            type="text" required
          />
        </div>
        <div class="flex flex-row justify-between">
          <p class="font-semibold">Password:</p>
          <input
            class="w-2/4 rounded-md text-center bg-transparent border-slate-200
            ↪  border-2"
            type="password"  required
          />
        </div>
        <input
          class="w-1/2 self-center p-3 rounded-md mt-3 font-semibold cursor-pointer
          ↪  hover:border-slate-200 border-2 border-transparent"
          type="submit" value="Submit"
        />
      </form>
    </section>
  </body>
</html>
```

webpage.html

```html
<html>
  <head>
    <title>University Login</title>
    <script src="https://cdn.tailwindcss.com"></script>
  </head>
  <body class="bg-[url('https://wallpaperaccess.com/full/3480773.jpg')] bg-fixed flex
↪    flex-col pt-10 pb-10 gap-4">
    <h1 class="text-6xl text-slate-50 font-semibold text-center drop-shadow-xl">
      Welcome <a class="text-amber-500" id="name"></a>
    </h1>
    <div class="flex flex-row w-full justify-center">
      <div class="bg-slate-950 bg-opacity-50 p-3 pt-10 pb-10 flex flex-col gap-5
↪    text-slate-50 w-3/4 items-center rounded-sm">
        <h1 class="text-3xl font-semibold"> Company Information </h1>
        <p class="w-5/6">
          Lorem ipsum dolor sit amet, officia excepteur ex fugiat reprehenderit enim
            ↪    labore culpa sint ad nisi Lorem pariatur
          mollit ex esse exercitation amet. Nisi anim cupidatat excepteur officia.
            ↪    Reprehenderit nostrud nostrud ipsum Lorem est
          aliquip amet voluptate voluptate dolor minim nulla est proident. Nostrud
            ↪    officia pariatur ut officia. Sit irure elit
          esse ea nulla sunt ex occaecat reprehenderit commodo officia dolor Lorem
            ↪    duis laboris cupidatat officia voluptate. Culpa
          proident adipisicing id nulla nisi laboris ex in Lorem sunt duis officia
            ↪    eiusmod. Aliqua reprehenderit commodo ex non
          excepteur duis sunt velit enim. Voluptate laboris sint cupidatat ullamco ut
            ↪    ea consectetur et est culpa et culpa duis.
        </p>

        <p class="w-5/6">
          Lorem ipsum dolor sit amet, officia excepteur ex fugiat reprehenderit enim
            ↪    labore culpa sint ad nisi Lorem pariatur
          mollit ex esse exercitation amet. Nisi anim cupidatat excepteur officia.
            ↪    Reprehenderit nostrud nostrud ipsum Lorem est
          aliquip amet voluptate voluptate dolor minim nulla est proident. Nostrud
            ↪    officia pariatur ut officia. Sit irure elit
          esse ea nulla sunt ex occaecat reprehenderit commodo officia dolor Lorem
            ↪    duis laboris cupidatat officia voluptate. Culpa
          proident adipisicing id nulla nisi laboris ex in Lorem sunt duis officia
            ↪    eiusmod. Aliqua reprehenderit commodo ex non
          excepteur duis sunt velit enim. Voluptate laboris sint cupidatat ullamco ut
            ↪    ea consectetur et est culpa et culpa duis.
        </p>

        <div
          class="bg-[url('https://wallpapercave.com/wp/wp6257941.jpg')] bg-cover h-96
            ↪    rounded-md w-3/4 self-center"
        ></div>

        <h1 class="text-3xl text-center font-semibold"> Our Purpose </h1>
        <p class="w-5/6">
          At the heart of our company beats a passion for anime|an art form that
            ↪    transcends boundaries, captivating hearts and
          minds worldwide. Our purpose is twofold: to celebrate the rich tapestry of
            ↪    anime, weaving together intricate narratives,
          vibrant characters, and breathtaking visuals, and to share this passion with
            ↪    enthusiasts, both seasoned and budding.
```

```
          Through our dedication to curating an eclectic selection of anime, we strive
          ↪   to create a space where individuals can
        immerse themselves in worlds both familiar and fantastical, finding solace,
          ↪   inspiration, and connection.
      </p>
      <p class="w-5/6">
        Guided by our commitment to fostering a community of creativity and
          ↪   inclusivity, we aim to be more than just a platform;
        we aspire to be a beacon of light, illuminating new perspectives, igniting
          ↪   imaginations, and nurturing the boundless
        potential within each viewer. Together, let us embark on a journey where
          ↪   every frame tells a story, and every story
        sparks a dream.
      </p>
    </div>
  </div>
  <script>
    let url = window.location.href;
    url = url
      .split('?')[1]
      // regex for removing + from GET
      .split('=')[1].replace(/\+/g, ' ');
    document.getElementById("name").innerHTML = String(url);
  </script>
</body>
</html>
```

16.3 Output

17 Registration Form

17.1 Aim

- Write a Javascript program to validate a form with the following fields

- Name, Email, Country code (text)

- Zip Code (Drop Down)

17.2 Code

```html
<html>
  <head>
    <title>Registration Form</title>
    <script src="https://cdn.tailwindcss.com"></script>
  </head>
  <body>
    <section class="w-full h-screen flex flex-col justify-center items-center">
      <h1 class="text-3xl text-blue-400 font-semibold mb-2">Register</h1>
      <form
        name="registration"
        onsubmit=validate()
        class="bg-white flex flex-col p-10 rounded-lg gap-8 font-semibold
        ↪   drop-shadow-xl *:flex *:flex-row *:justify-between *:gap-10
        ↪   *:items-center"
      >
        <div>
          Name
          <input type="text"
            name="name"
            class="text-center font-normal focus:outline-none border-b-2
            ↪   border-blue-300 focus:border-blue-400 drop-shadow-md bg-transparent"
          />
        </div>

        <div>
          Zip Code
          <select class="font-normal bg-blue-400 rounded-md px-2 py-1 text-white
          ↪   focus:outline-none">
            <option>2018</option>
            <option>8123</option>
            <option>1243</option>
          </select>
        </div>
        <div>
          Email id
          <input type="email"
            name="email"
            class="text-center font-normal focus:outline-none border-b-2
            ↪   border-blue-300 focus:border-blue-400 drop-shadow-md bg-transparent"
          />
        </div>
        <div>
          Country code
          <input type="text"
            name="country"
            class="text-center font-normal focus:outline-none border-b-2
            ↪   border-blue-300 focus:border-blue-400 drop-shadow-md bg-transparent"
```

```
      />
    </div>
    <input type="submit"
      class="bg-blue-400 hover:bg-blue-500 w-[100px] text p-3 rounded-md
      ↪  cursor-pointer text-white text-center font-semibold drop-shadow-md"
    />
  </form>
</section>
<script>
  document.getElementsByName("registration")[0].addEventListener("submit",
  ↪  function (e) { e.preventDefault() });
  function validate() {
    let form = document.forms["registration"]

    if (form["name"].value == "") {
      alert("name is empty")
    } else if (form["email"].value == "") {
      alert("email is empty")
    } else if (form["country"].value == "") {
      alert("country code is empty")
    } else {
      alert("Form Submitted Successfully")
    }
  }
</script>
</body>
</html>
```

17.3 Output

18 Hiding with JQuery

18.1 Aim

- Use the JQuery library to hide elements using the different kinds of selectors

- make a drop down list which can be used to select what element is hidden

18.2 Code

```html
<html>
  <head>
    <title>Jquery</title>
    <script src="https://cdn.tailwindcss.com"></script>
    <!-- The following line is very important for using JQUERY library -->
    <script src="https://ajax.googleapis.com/ajax/libs/jquery/3.5.1/jquery.min.js"></
    ↪  script>
  </head>
  <body>
    <section class="w-full h-screen flex flex-col justify-center items-center">
      <h1 class="text-3xl font-semibold text-rose-400 mb-2">Jquery Hide</h1>
      <div class="bg-white flex flex-col p-3 rounded-lg drop-shadow-md">
        <div class="flex flex-row p-3 gap-2 text-white font-semibold justify-evenly">
          <a
            class="bg-pink-400 p-3 rounded-md"
          > Element </a>
          <p
            id="id"
            class="bg-teal-400 p-3 pl-6 pr-6 rounded-md"
          > Id </p>
          <p
            class="cls bg-cyan-400 p-3 pl-4 pr-4 rounded-md"
          > Class </p>
        </div>
        <div class="flex flex-row p-3 gap-2 justify-evenly">
          <label for="slection" class="text-rose-400 font-semibold text-xl"> What to
          ↪  hide? </label>
          <select name="selection" class="text-rose-400 text-center font-semibold
          ↪  drop-shadow-sm">
            <option value="none">none</option>
            <option value="ele">element</option>
            <option value="id">id</option>
            <option value="cls">class</option>
          </select>
        </div>
      </div>
    </section>
    <script>
      $(document).ready(function() {
        $("select").change(function() {
          var options = $(this).children("option:selected").val();

          // reset
          $("a").show();
          $("#id").show();
          $(".cls").show();

          if (options == "ele") { $("a").hide(); }
```

```
        else if (options == "id") { $("#id").hide(); }
        else if (options == "cls") { $(".cls").hide(); }
      })
    })
  </script>
</body>
</html>
```

18.3   Output

19 Online Railway Booking

19.1 Aim

- Design a website for booking online railway tickets having the following fields:

- Name, email, gender (radio)

- Date of Journey

- Destination (dropdown)

19.2 Code

```html
<html>
  <head>
    <title>Railway Booking</title>
    <script src="https://cdn.tailwindcss.com"></script>
  </head>
  <body class="bg-[url('https://cdn.wallpapersafari.com/51/69/G6gxTr.jpg')]">
    <section class="w-full h-screen flex flex-col justify-center items-center">
      <h1 class="text-3xl font-bold text-zinc-600 mb-2 drop-shadow-xl">Ticket
      ↪  booking</h1>
      <!-- Note the *: selecter selects every direct children and appends the styles
      ↪  to them -->
      <form class="bg-zinc-50 flex flex-col p-4 gap-3 drop-shadow-xl *:flex *:flex-row
      ↪  *:gap-4 *:p-2 *:justify-between *:items-center *:font-semibold w-[450px]">
        <label>
          Name
          <input
            type="text" name="name" required
            class="focus:outline-zinc-600 p-1 text-center focus:text-inherit w-3/4
            ↪  drop-shadow-sm"
          />
        </label>

        <label>
          Email
          <input
            type="email" name="email" required
            class="focus:outline-zinc-600 p-1 text-center focus:text-inherit w-8/12
            ↪  drop-shadow-sm"
          />
        </label>

        <label>
          Gender
          <div class="flex gap-2">
            <label class="flex flex-row p-2 gap-2 items-center">
              <input
                type="radio" name="gender" value="male"
                class="appearance-none w-5 h-5 border-[3px] border-zinc-600
                ↪  cursor-pointer checked:border-[6px] checked:border-zinc-600
                ↪  rounded-full"
              />
              Male
            </label>
            <label class="flex flex-row p-2 gap-2 items-center">
              <input
```
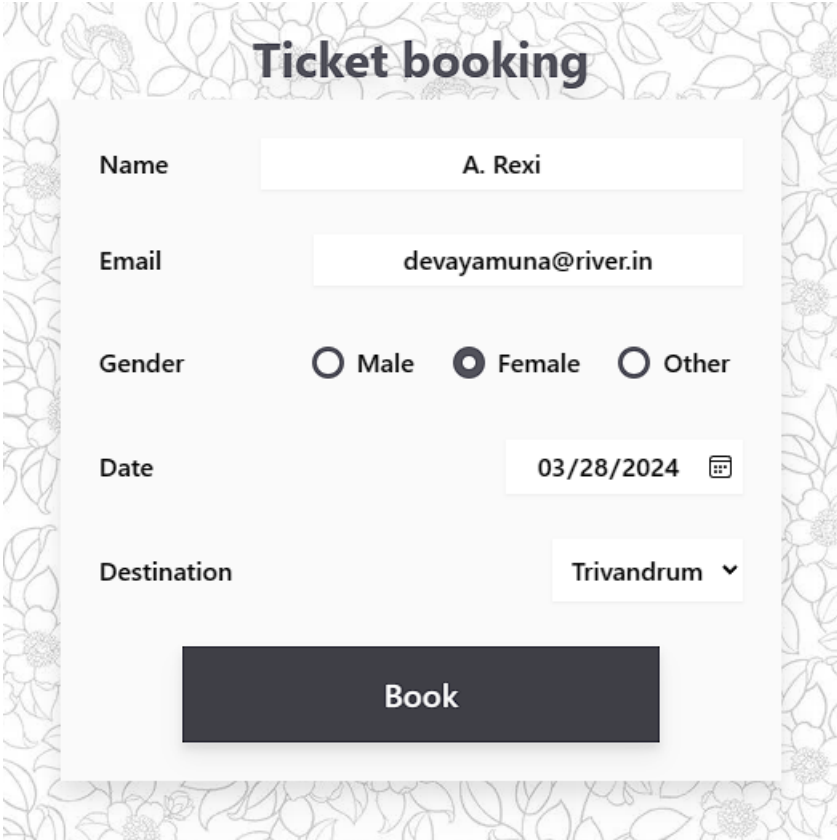
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```html
        type="radio" name="gender" value="female"
        class="appearance-none w-5 h-5 border-[3px] border-zinc-600
        ↪    cursor-pointer checked:border-[6px] checked:border-zinc-600
        ↪    rounded-full"
      />
      Female
    </label>
    <label class="flex flex-row p-2 gap-2 items-center">
      <input
        type="radio" name="gender" value="other" checked
        class="appearance-none w-5 h-5 border-[3px] border-zinc-600
        ↪    cursor-pointer checked:border-[6px] checked:border-zinc-600
        ↪    rounded-full"
      />
      Other
    </label>
  </div>
</label>

<label>
  Date
  <input
    type="date" name="date" required
    class="p-1 text-center focus:text-inherit drop-shadow-sm"
  />
</label>

<label>
  Destination
  <select name="destination" class="p-2 drop-shadow-sm">
    <option value="kochi">Kochi</option>
    <option value="triv">Trivandrum</option>
    <option value="kanoor">Kanoor</option>
  </select>
</label>
<div class="self-center w-3/4">
  <input
    type="submit" value="Book"
    class="bg-zinc-700 active:bg-zinc-800 p-4 w-full text-white text-xl
    ↪    text-center cursor-pointer drop-shadow-lg"
  />
</div>
    </form>
  </section>
</body>
</html>
```

19.3 Output

20 AJAX

20.1 Aim

- Write a JavaScript program utilizing AJAX technology

20.2 Code

```html
<html>
  <head>
    <title>Ajax</title>
    <script src="https://cdn.tailwindcss.com"></script>
  </head>
  <body>
    <section class="h-screen flex flex-col justify-center items-center p-4 gap-4">
      <h1 class="text-3xl font-semibold">Ajax Program</h1>
      <div class="bg-zinc-50 p-10 gap-10 flex flex-col justify-center border-2
      ↪  border-zinc-600">
        <a id="content">I have not been clicked</a>
        <button
          class="p-4 text-center bg-zinc-600 text-white cursor-pointer
          ↪  active:bg-zinc-800"
          onclick=update()
        > click me </button>
      </div>
    </section>
    <script>
    // NOTE: You will need to run this program via WAMP.
    // Also create a data.txt file
    function update() {
      const xhttp = new XMLHttpRequest();
      xhttp.onload = function () {
        document.getElementById('content').innerHTML = this.responseText;
      }
      xhttp.open("GET", "data.txt");
      xhttp.send();
    }
    </script>
  </body>
</html>
```

20.3 Output