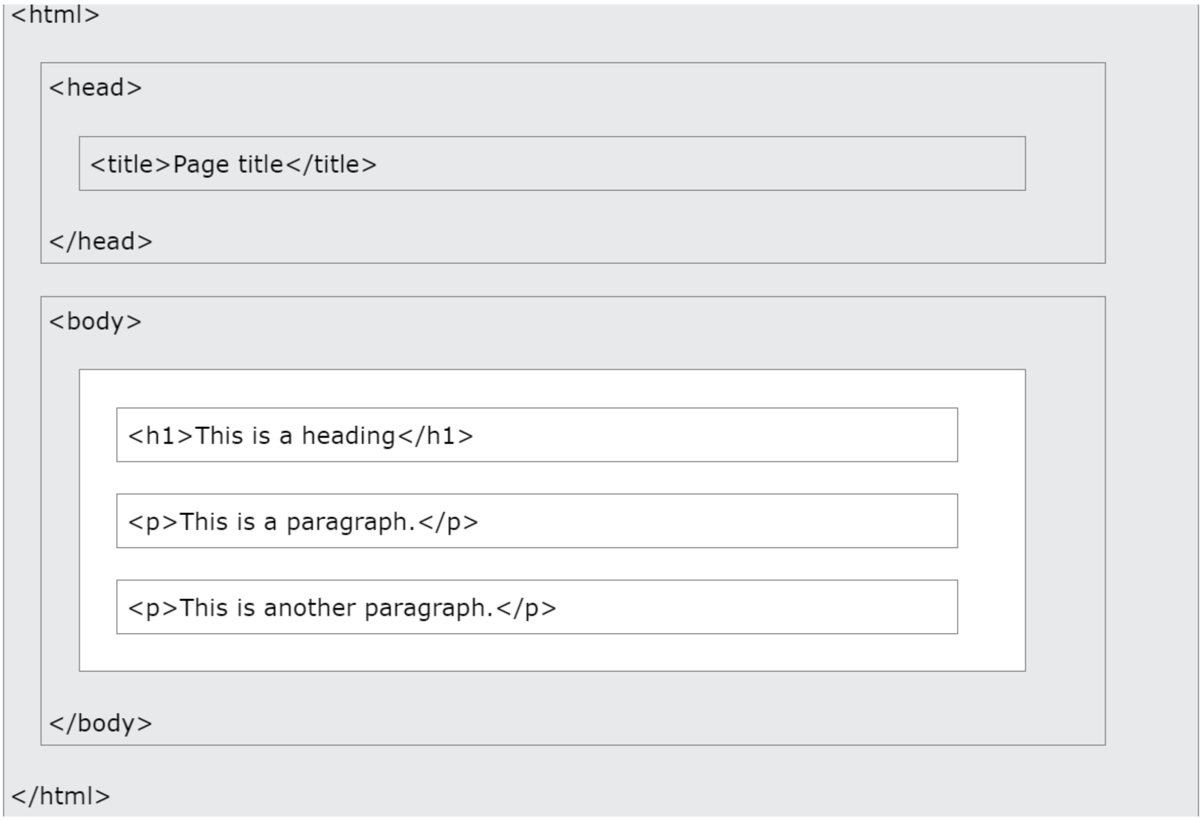
Exercises -1

1.a) HTML-5 Module Name: Case-insensitivity ,Platform-independency ,DOCTYPE Declaration, Types of Elements, Html elements – Attributes, Metadata Elements

HTML5:

HTML5 is the next major revision of the HTML standard superseding HTML 4.01, XHTML 1.0, and XHTML 1.1. HTML5 is a standard for structuring and presenting content on the World Wide Web.

Html Page Structure :



```
<html>
  <head>
    <title>Page title</title>
  </head>
  <body>
      <h1>This is a heading</h1>
      <p>This is a paragraph.</p>
      <p>This is another paragraph.</p>
  </body>
</html>
```

HTML tags are not case sensitive: <P> means the same as <p>.

The HTML standard does not require lowercase tags, but W3C recommends lowercase in HTML, and demands lowercase for stricter document types like XHTML.

The DOCTYPE declaration is an instruction to the web browser about what version of HTML the page is written in. This ensures that the web page is parsed the same way by different web browsers.

Case-insensitivity: HTML is case-insensitive, meaning that tags, attributes, and attribute values can be written in either uppercase or lowercase letters. For example, <P> and <p> both represent a paragraph element in HTML.

DOCTYPE Declaration: The DOCTYPE declaration is a required element in HTML that specifies the type of HTML document. It is used by web browsers to determine which version of HTML to use when rendering a page.

Types of Elements: HTML elements can be divided into two types: block-level elements and inline elements. Block-level elements start on a new line and take up the full width of their parent container, while inline elements are placed within the flow of the text and only take up as much width as necessary.

HTML5 Elements :

HTML5 elements are marked up using start tags and end tags. Tags are delimited using angle brackets with the tag name in between.

The difference between start tags and end tags is that the latter includes a slash before the tag name.

Following is the example of an HTML5 element −

```
<p>...</p>
```

HTML5 tag names are case insensitive and may be written in all uppercase or mixed case, although the most common convention is to stick with lowercase.

Most of the elements contain some content like <p>...</p> contains a paragraph. Some elements, however, are forbidden from containing any content at all and these are known as void elements. For example, **br, hr, link, meta**, etc.

Type of elements :

- Audio Element
- Canvas Element
- Input Types
- Output Element
- Progress Element
- SVG Element(Scalable Vector Graphics (SVG))
- Video Element

Source : https://docs.aws.amazon.com/silk/latest/developerguide/html5-elements.html#canvas-element

HTML5 ATTRIBUTES

Elements may contain attributes that are used to set various properties of an element.

Some attributes are defined globally and can be used on any element, while others are defined for specific elements only. All attributes have a name and a value and look like as shown below in the example.

Following is the example of an HTML5 attribute which illustrates how to mark up a div element with an attribute named class using a value of "example" –

```
<div class = "example">...</div>
```

Attributes may only be specified within start tags and must never be used in end tags.

HTML5 attributes are case insensitive and may be written in all uppercase or mixed case, although the most common convention is to stick with lowercase.

The basic Structure of html5 document

The following tags have been introduced for better structure −

- **section** − This tag represents a generic document or application section. It can be used together with h1-h6 to indicate the document structure.
- **article** − This tag represents an independent piece of content of a document, such as a blog entry or newspaper article.
- **aside** − This tag represents a piece of content that is only slightly related to the rest of the page.
- **header** − This tag represents the header of a section.
- **footer** − This tag represents a footer for a section and can contain information about the author, copyright information, et cetera.
- **nav** − This tag represents a section of the document intended for navigation.
- **dialog** − This tag can be used to mark up a conversation.
- **figure** − This tag can be used to associate a caption together with some embedded content, such as a graphic or video.

Metadata Element: Metadata is data that provides information about other data. In HTML, metadata elements provide information about the document and are placed in the <head> section of the HTML code. Examples of metadata elements include the <meta> tag, which provides information such as keywords and a description of the page, and the <title> tag, which provides the title of the page that is displayed in the browser's title bar.

Example Program for above basic tags:

```
<!DOCTYPE html>
<html>
  <head>
    <meta charset = "utf-8">
    <title>...</title>
  </head>
  <body>
    <header role = "banner">
      <h1>HTML5 Document Structure Example</h1>
      <p>This page should be tried in safari, chrome or Mozila.</p>
    </header>
    <nav>
      <ul>
        <li><a href = "http://www.acet.ac.in/" target="_blank" >ACET</a></li>
        <li><a href = "http://www.acet.ac.in/?p=CSE" target="_blank" >CSE</a></li>
        <li><a href = "http://www.acet.ac.in/?p=IT" target="_blank">
        IT</a></li>
      </ul>
    </nav>
    <article>
      <section>
        <p>Once article can have multiple sections</p>
      </section>
    </article>
    <aside>
      <p>This is  aside part of the web page</p>
    </aside>
    <footer>
      <p>Created by <a href = "">veerendra</a></p>
    </footer>
  </body>
</html>
```

Tags in Exercises-1 a)

<!Doctype>=> The HTML document type declaration, also known as DOCTYPE , is **the first line of code required in every HTML or XHTML document**. The DOCTYPE declaration is an instruction to the web browser about what version of HTML the page is written in

Metatag=> the meta tag defines the meta data about html document

Metatag always in side the <head> element and meta tag used to specify the character set page description , keywords ,author of the document and viewport settings

We have two important attributes for meta tag

1. name
2. content
3. http-equiv

1. name

we have 4 important values for name attributes those are description, keywords , author ,viewport

description => description of web page (Information about webpage)

keywords => keyword for define the search engine

author => define the author’s name

viewport => to make webpage device compatibility

2. Content

Specifies the value associated with the http-equiv or name attribute

3 . http-equiv

Provides an HTTP header for the information/value of the content attribute

Example of viewport

```
<meta name="viewport" content="width=device-width, initial-scale=1.0">
```

This gives the browser instructions on how to control the page's dimensions and scaling.

The width=device-width part sets the width of the page to follow the screen-width of the device (which will vary depending on the device).

The initial-scale=1.0 part sets the initial zoom level when the page is first loaded by the browser.

Initial-scale range 1.0 to 10

1b) Sectioning elements

Sectioning elements in HTML refer to HTML elements that define the structure and organization of a web page. These elements are used to divide the content into sections and allow accessibility features such as navigation and headings.

The main sectioning elements in HTML are:

<header>: used to define a header for a document or section

<nav>: used to define navigation links

<main>: used to define the main content of a document

<article>: used to define an independent, self-contained article

<section>: used to define a standalone section of a document

<aside>: used to define content that is tangentially related to the main content

<footer>: used to define a footer for a document or section.

Using these sectioning elements correctly can improve the accessibility and structure of your web pages.

1C) Module Name: Paragraph Element, Division and Span Elements, List Element

Paragraph Element:

The <p> tag **defines a paragraph**. Browsers automatically add a single blank line before and after each <p> element.

Example : <p> This is Element P</p>

Division:

The div tag is known as Division tag. The div tag is used in HTML to make divisions of content in the web page like (text, images, header, footer, navigation bar, etc). Div tag has both open(<div>) and closing (</div>) tag and it is mandatory to close the tag. The Div is the most usable tag in web development because it helps us to separate out data in the web page and we can create a particular section for particular data or function in the web pages.

```
<div>

<h1>Aditya College of Engineering and Technology</h1>

<h2>Aditya College of Engineering </h2>

<h3>Aditya Engineering College </h3>

</div>
```

Span:

The <span> tag is **an inline container used to mark up a part of a text, or a part of a document**. The <span> tag is easily styled by CSS or manipulated with JavaScript using the class or id attribute. The <span> tag is much like the <div> element, but <div> is a block-level element and <span> is an inline element.

```
<span> sample text </span>
```

List Element:

HTML Lists are used to specify lists of information. All lists may contain one or more list elements. There are three different types of HTML lists:

1. Ordered List or Numbered List (ol)
2. Unordered List or Bulleted List (ul)

HTML ORDERED LIST OR NUMBERED LIST

In the ordered HTML lists, all the list items are marked with numbers by default. It is known as numbered list also. The ordered list starts with <ol> tag and the list items start with <li> tag.

```
<ol>
 <li>ACET</li>
 <li>AEC</li>
 <li>ACOE</li>
</ol>
```

Output:

1. ACET
2. AEC
3. ACOE

HTML UNORDERED LIST OR BULLETED LIST

In HTML Unordered list, all the list items are marked with bullets. It is also known as bulleted list also. The Unordered list starts with <ul> tag and list items start with the <li> tag.

```
<ul>
<li>ACET</li>

 <li>AEC</li>
 <li>ACOE</li>
</ul>
```

Output:

Output:

- ACET
- AEC
- ACOE

Css (cascading style sheets)

Cascading Style Sheets (**CSS**) is a stylesheet language used to describe the presentation of a document written in HTML or XML (including XML dialects such as SVG, MathML or XHTML). CSS describes how elements should be rendered on screen, on paper, in speech, or on other media

Types of Css

Cascading Style Sheet(CSS) is used to set the style in web pages that contain HTML elements. It sets the background color, font-size, font-family, color, … etc property of elements on a web page. There are three types of CSS which are given below:

- Inline CSS
- Internal or Embedded CSS
- External CSS

Inline CSS: Inline CSS contains the CSS property in the body section attached with element is known as inline CSS. This kind of style is specified within an HTML tag using the style attribute.

```
<p style = "color:#009900; font-size:50px;
                font-style:italic; text-align:center;">
            Aditya
        </p>
```

Internal or Embedded CSS: This can be used when a single HTML document must be styled uniquely. The CSS rule set should be within the HTML file in the head section i.e the CSS is embedded within the HTML file.

```
<head>
        <title>Internal CSS</title>
        <style>
            .ptag {
                font-style:bold;
                font-size:20px;
            }
        </style>
    </head>

<body>


            <div class ="ptag">
                A computer science Engineering
            </div>
    </body>
```

External CSS: External CSS contains separate CSS file which contains only style property with the help of tag attributes (For example class, id, heading, … etc). CSS property written in a separate file with .css extension and should be linked to the HTML document using **link** tag. This means that for each element, style can be set only once and that will be applied across web pages.

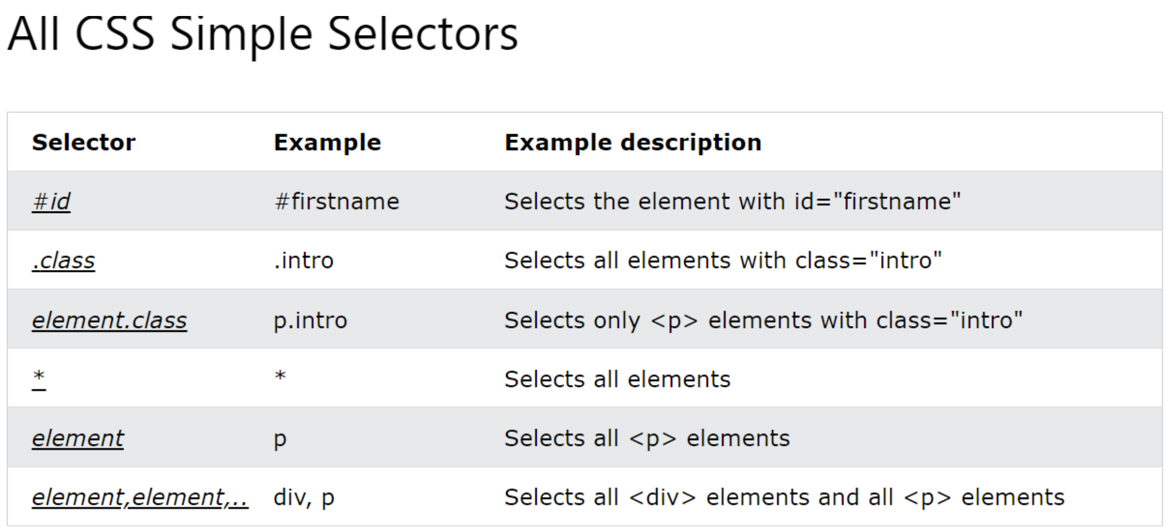
Example: The file given below contains CSS property. This file save with .css extension. For Ex: **style.css**

```
body {

    background-color:powderblue;

}

#ptag {

    font-style:bold;

    font-size:20px;

}
```

Below is the HTML file that is making use of the created external style sheet

- **link** tag is used to link the external style sheet with the html webpage.
- **href** attribute is used to specify the location of the external style sheet file.

```
<html>
    <head>
        <link rel="stylesheet" href="geeks.css"/>
    </head>

    <body>

            <div id ="ptag">
                A computer science Engineering
            </div>
    </body>
</html>
```

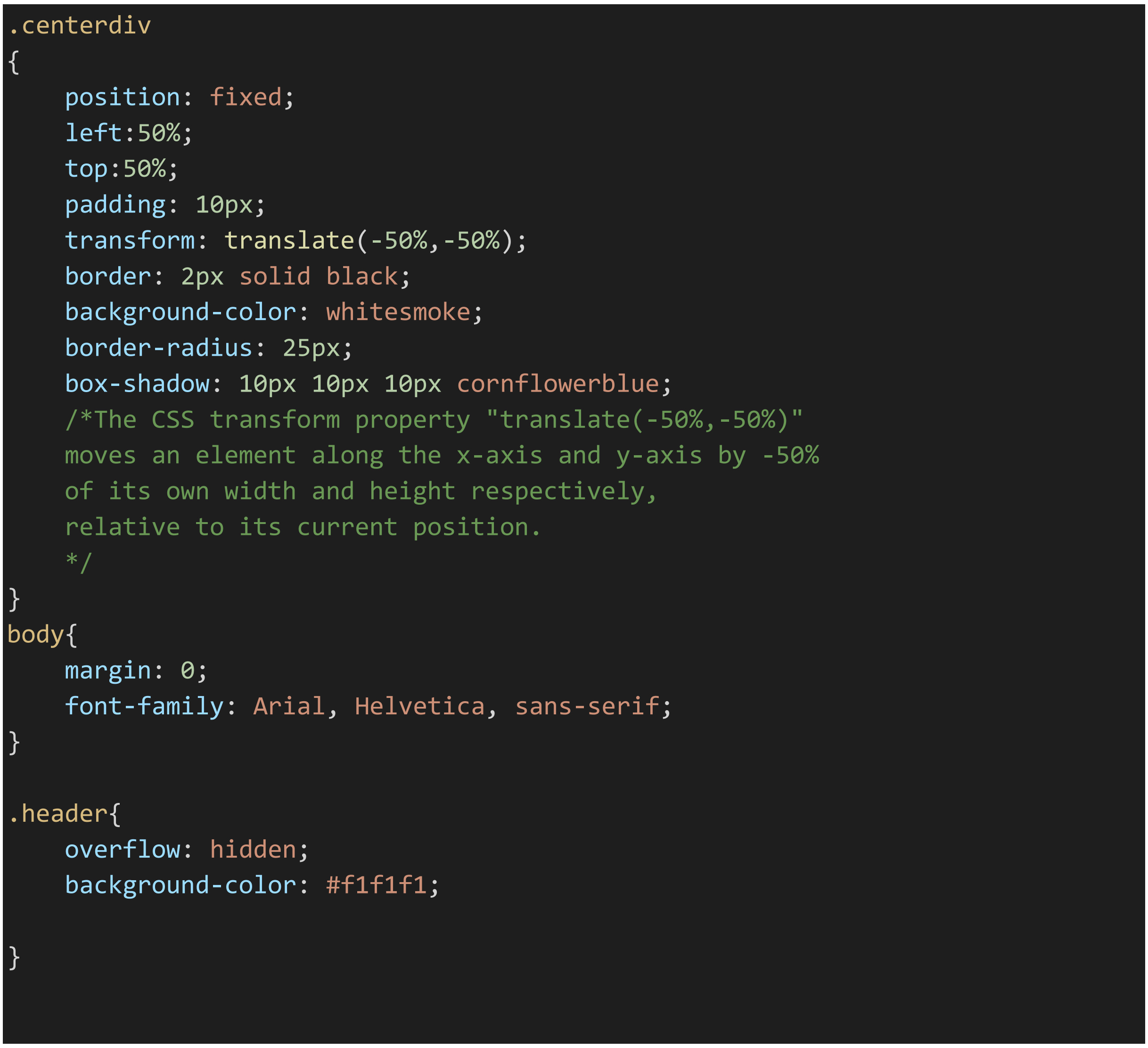


All CSS Simple Selectors

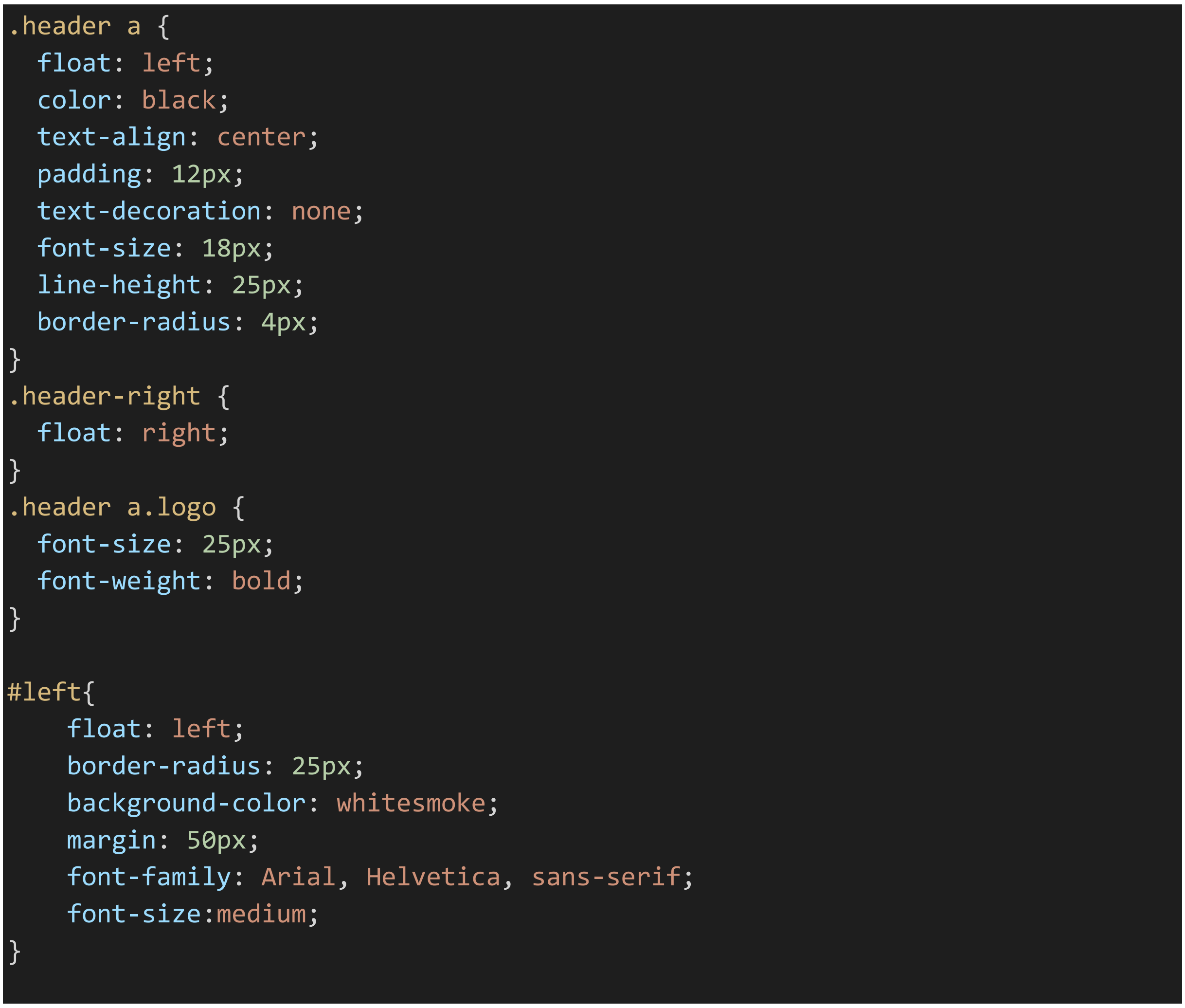
Selector	Example	Example description
#id	#firstname	Selects the element with id="firstname"
.class	.intro	Selects all elements with class="intro"
element.class	p.intro	Selects only <p> elements with class="intro"
*	*	Selects all elements
element	p	Selects all <p> elements
element,element,..	div, p	Selects all <div> elements and all <p> elements

Exercises-1(Program)

Style.css

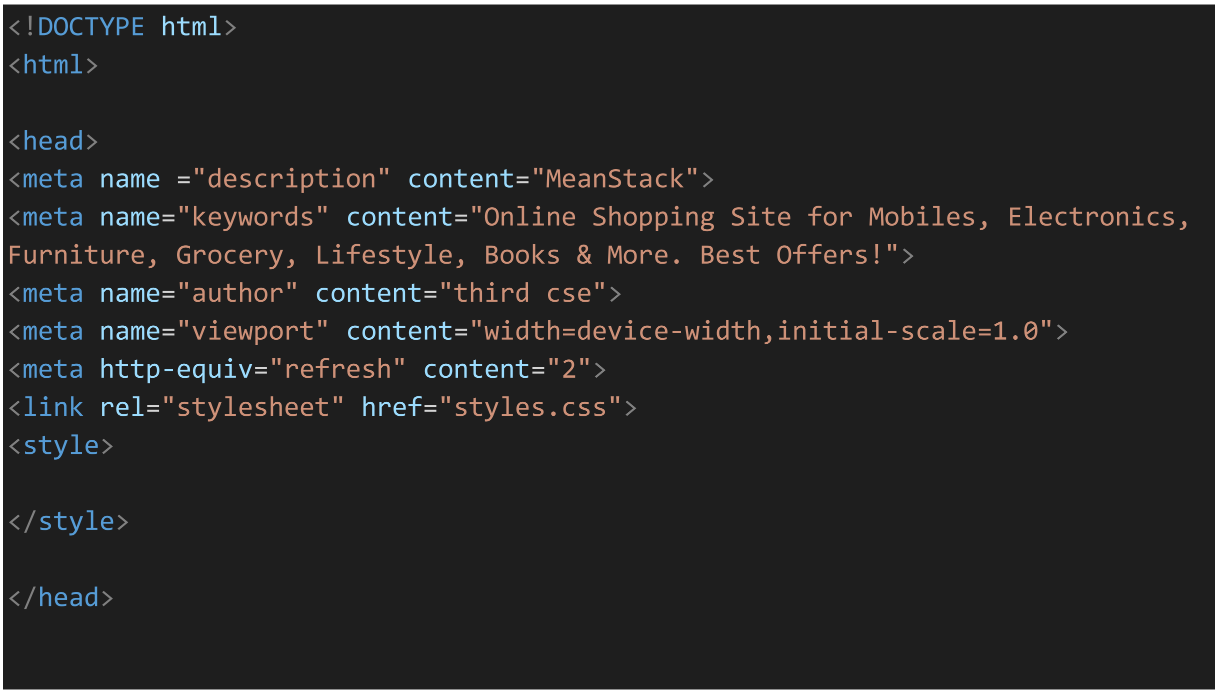


```
.centerdiv
{
    position: fixed;
    left:50%;
    top:50%;
    padding: 10px;
    transform: translate(-50%,-50%);
    border: 2px solid black;
    background-color: whitesmoke;
    border-radius: 25px;
    box-shadow: 10px 10px 10px cornflowerblue;
    /*The CSS transform property "translate(-50%,-50%)"
    moves an element along the x-axis and y-axis by -50%
    of its own width and height respectively,
    relative to its current position.
    */
}
body{
    margin: 0;
    font-family: Arial, Helvetica, sans-serif;
}

.header{
    overflow: hidden;
    background-color: #f1f1f1;

}
```



```css
.header a {
  float: left;
  color: black;
  text-align: center;
  padding: 12px;
  text-decoration: none;
  font-size: 18px;
  line-height: 25px;
  border-radius: 4px;
}
.header-right {
  float: right;
}
.header a.logo {
  font-size: 25px;
  font-weight: bold;
}

#left{
    float: left;
    border-radius: 25px;
    background-color: whitesmoke;
    margin: 50px;
    font-family: Arial, Helvetica, sans-serif;
    font-size:medium;
}
```

Home.html

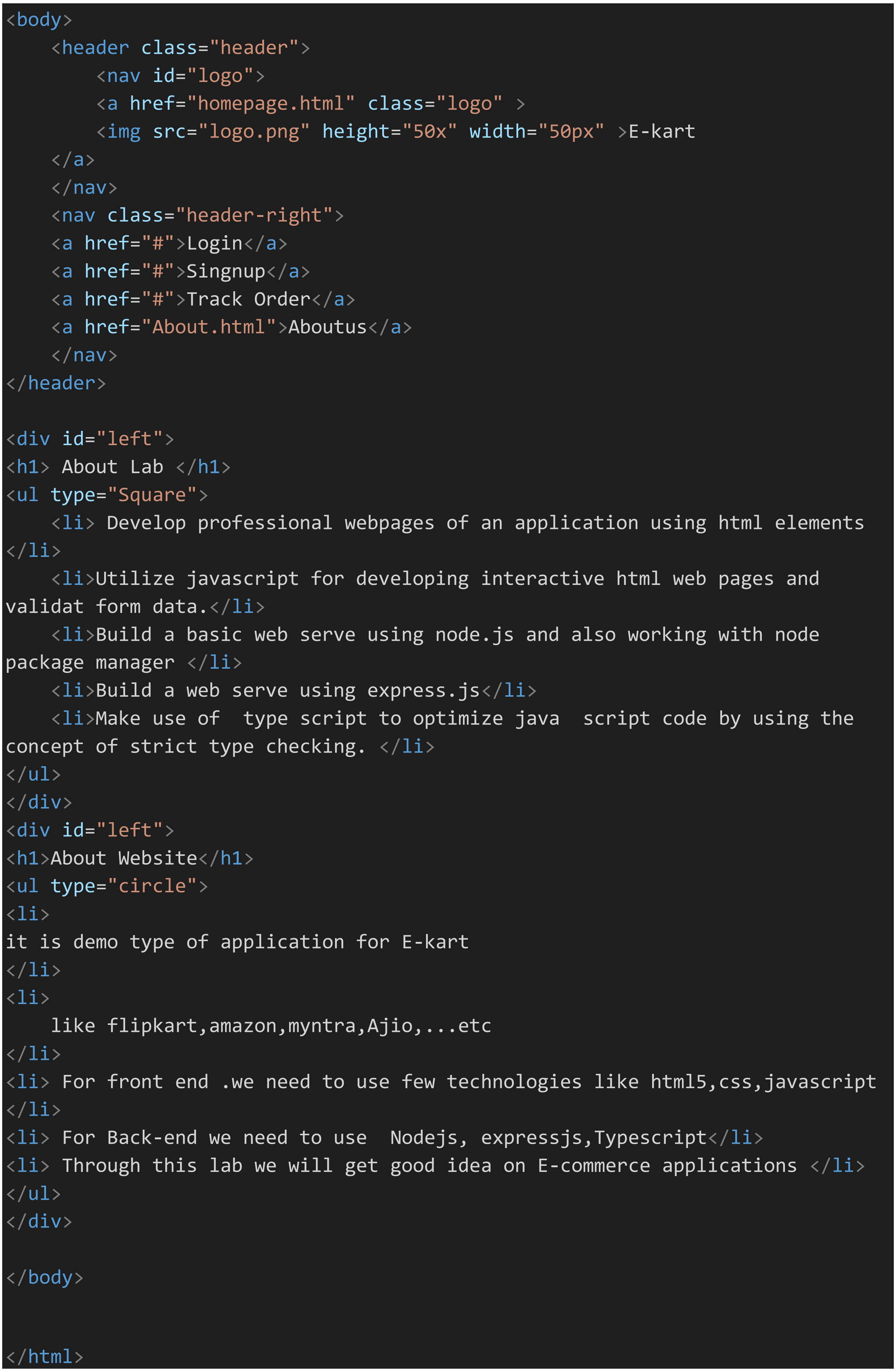


```html
<!DOCTYPE html>
<html>

<head>
<meta name ="description" content="MeanStack">
<meta name="keywords" content="Online Shopping Site for Mobiles, Electronics,
Furniture, Grocery, Lifestyle, Books & More. Best Offers!">
<meta name="author" content="third cse">
<meta name="viewport" content="width=device-width,initial-scale=1.0">
<meta http-equiv="refresh" content="2">
<link rel="stylesheet" href="styles.css">
<style>

</style>

</head>
```

```
<body>
<header class="header">
    <nav id="logo">
    <a href="homepage.html" class="logo" >
    <img src="logo.png" height="50x" width="50px" >E-kart
</a>
</nav>
<nav class="header-right">
<a href="#">Login</a>
<a href="#">Singnup</a>
<a href="#">Track Order</a>
<a href="About.html">Aboutus</a>
</nav>
</header>
    <br/>
<div class="centerdiv">
        <p style="font-size: medium ; font-family: 'Times New Roman', Times,
serif;">
        IEKart's is an online shopping website that sells goods in retail.
This company deals
        with various categories like Electronics, Clothing, Accessories etc
</p>
    <h1>Today Offers</h1>
        <section>
            <h2>Offers on samsung Mobile </h2>
            <p>offers on s21,s23 ,A50 <a href="#">please check </a></p>
        </section>

        <section>
            <h2>Offers on Shoes </h2>
            <p>Offers on Nike , Addidas, Sketchers <a href="#">please check
</a>...</p>
        </section>
    </div>

</body>
</html>
```

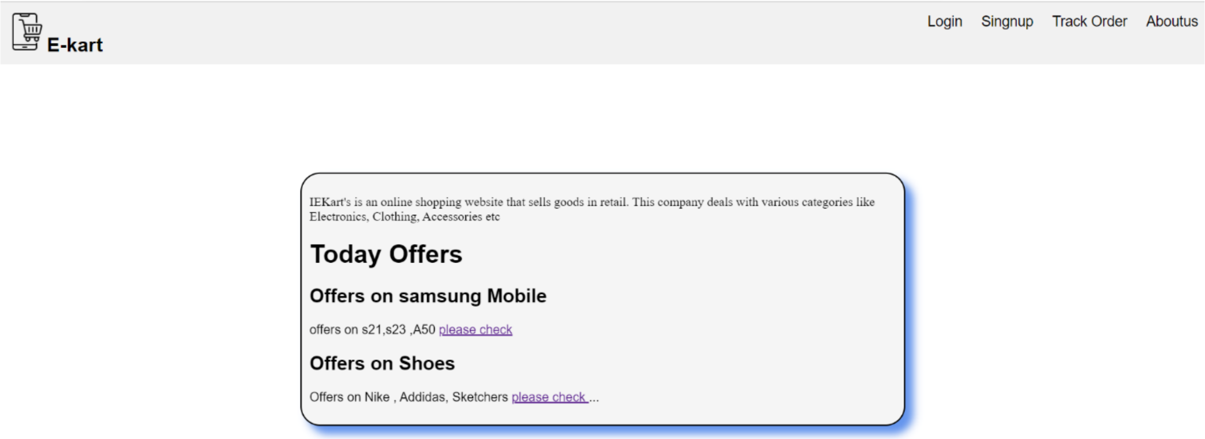
Aboutus.html

```
<!DOCTYPE html>
<html>
<head>
<meta name="viewport" content="width=device-width, initial-scale=1">
<link rel="stylesheet" href="styles.css">
<title> About Page  </title>
</head>
```



```html
<body>
    <header class="header">
        <nav id="logo">
        <a href="homepage.html" class="logo" >
        <img src="logo.png" height="50x" width="50px" >E-kart
    </a>
    </nav>
    <nav class="header-right">
    <a href="#">Login</a>
    <a href="#">Singnup</a>
    <a href="#">Track Order</a>
    <a href="About.html">Aboutus</a>
    </nav>
</header>

<div id="left">
<h1> About Lab </h1>
<ul type="Square">
    <li> Develop professional webpages of an application using html elements
</li>
    <li>Utilize javascript for developing interactive html web pages and
validat form data.</li>
    <li>Build a basic web serve using node.js and also working with node
package manager </li>
    <li>Build a web serve using express.js</li>
    <li>Make use of  type script to optimize java  script code by using the
concept of strict type checking. </li>
</ul>
</div>
<div id="left">
<h1>About Website</h1>
<ul type="circle">
<li>
it is demo type of application for E-kart
</li>
<li>
    like flipkart,amazon,myntra,Ajio,...etc
</li>
<li> For front end .we need to use few technologies like html5,css,javascript
</li>
<li> For Back-end we need to use  Nodejs, expressjs,Typescript</li>
<li> Through this lab we will get good idea on E-commerce applications </li>
</ul>
</div>

</body>


</html>
```

Output :



E-kart

Login Singnup Track Order Aboutus

IEKart's is an online shopping website that sells goods in retail. This company deals with various categories like Electronics, Clothing, Accessories etc

Today Offers

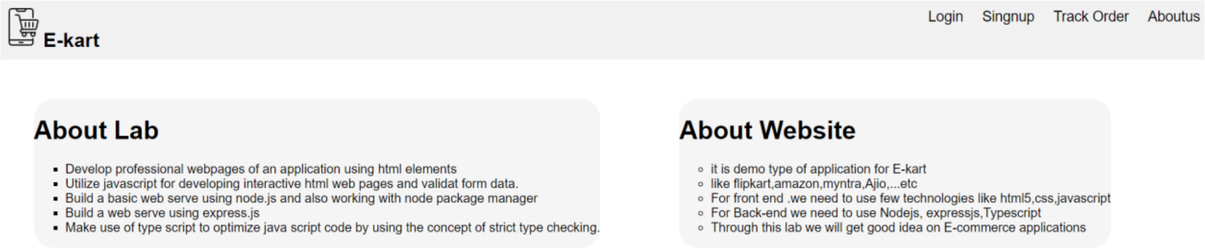
Offers on samsung Mobile

offers on s21,s23 ,A50 please check

Offers on Shoes

Offers on Nike , Addidas, Sketchers please check ...

Above page is basic home page . when we click aboutus link it must be redirect to aboutus page like below output :



E-kart

Login Singnup Track Order Aboutus

About Lab

- Develop professional webpages of an application using html elements
- Utilize javascript for developing interactive html web pages and validat form data.
- Build a basic web serve using node.js and also working with node package manager
- Build a web serve using express.js
- Make use of type script to optimize java script code by using the concept of strict type checking.

About Website

- it is demo type of application for E-kart
- like flipkart,amazon,myntra,Ajio,...etc
- For front end .we need to use few technologies like html5,css,javascript
- For Back-end we need to use Nodejs, expressjs,Typescript
- Through this lab we will get good idea on E-commerce applications

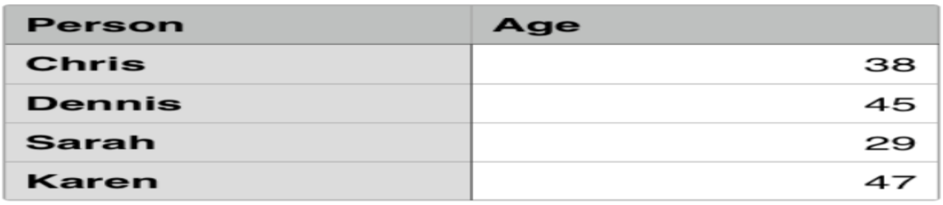
Exercises -2

2a) Creating Table Elements, Table Elements : Colspan/Rowspan Attributes, border, cellspacing, cellpadding attributes

What is table tag:

<table> :

A table is a structured set of data made up of rows and columns (**tabular data**). A table allows you to quickly and easily look up values that indicate some kind of connection between different types of data, for example a person and their age, or a day of the week, or the timetable for a class .



Person	Age
Chris	38
Dennis	45
Sarah	29
Karen	47

Table tags :

Tag	Description
<table>	It defines a table.
<tr>	It defines a row in a table.
<th>	It defines a header cell in a table.
<td>	It defines a cell in a table.

Important attributes in table:

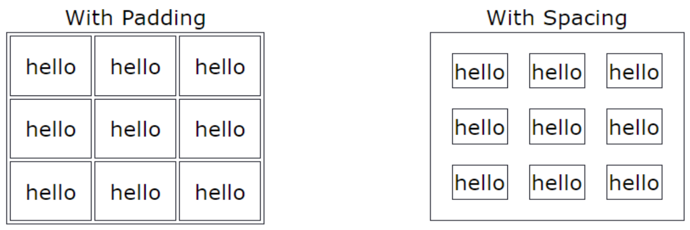
Colspan and Rowspan: The rowspan and colspan are the attributes of <td> tag. These are used to specify the number of rows or columns a cell should merge. The rowspan attribute is for merging rows and the colspan attribute is for merging columns of the table in HTML.

Border: The HTML <table> border Attribute is used to *specify the border of a table*. It sets the border around the table cells.

Syntax: <table border="1|0">

Cell spacing: Cell spacing is the space between each cell

Cell padding: Cell padding is the space between the cell edges and the cell content.

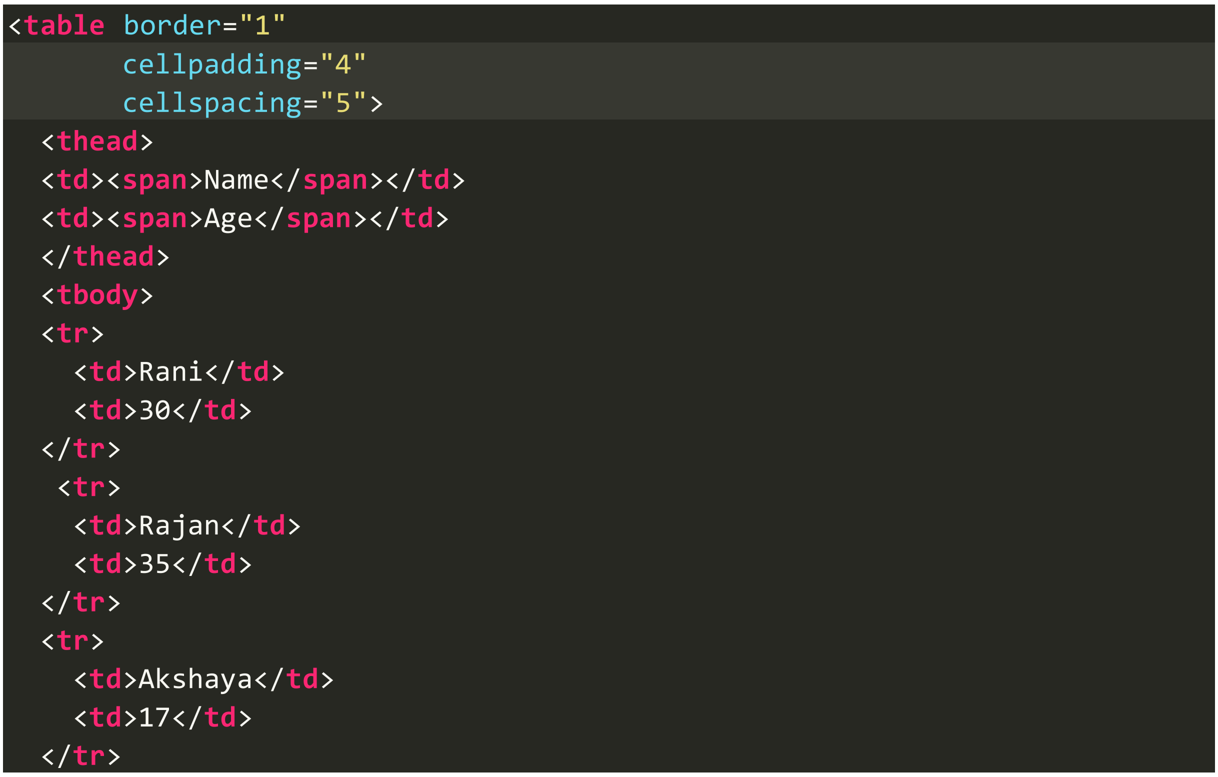


With Padding

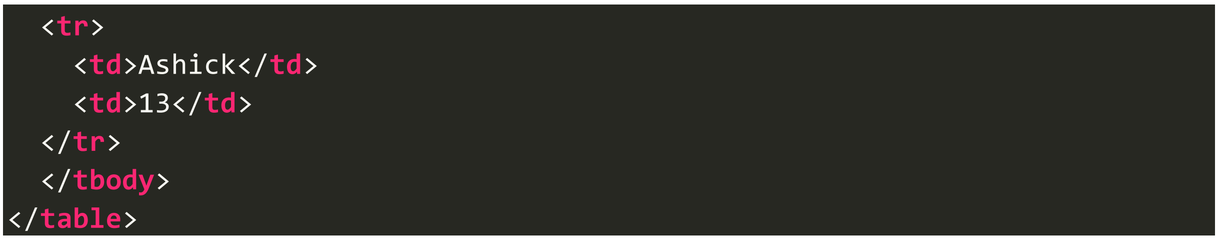
hello	hello	hello
hello	hello	hello
hello	hello	hello

With Spacing

hello	hello	hello
hello	hello	hello
hello	hello	hello

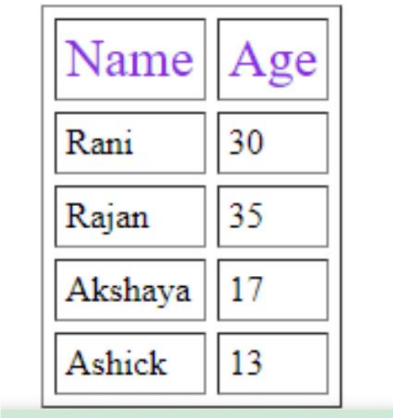


```
<table border="1"
       cellpadding="4"
       cellspacing="5">
  <thead>
  <td><span>Name</span></td>
  <td><span>Age</span></td>
  </thead>
  <tbody>
  <tr>
    <td>Rani</td>
    <td>30</td>
  </tr>
   <tr>
    <td>Rajan</td>
    <td>35</td>
  </tr>
  <tr>
    <td>Akshaya</td>
    <td>17</td>
  </tr>
```



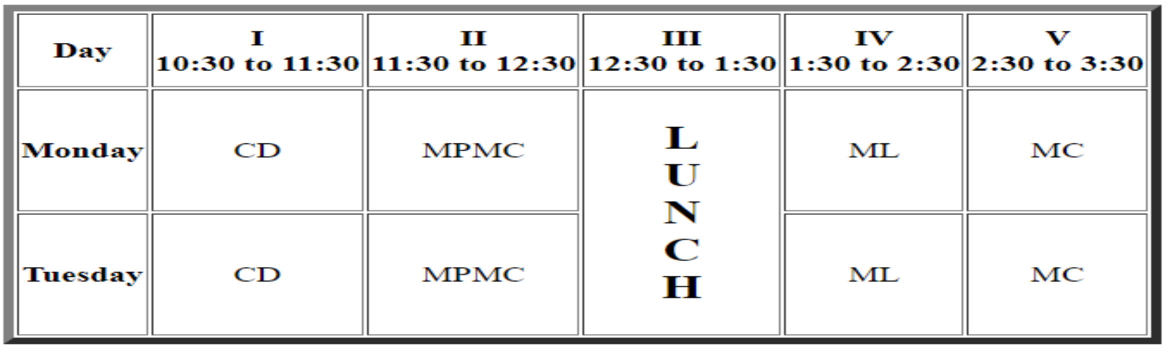
```
  <tr>
    <td>Ashick</td>
    <td>13</td>
  </tr>
  </tbody>
</table>
```

Output:

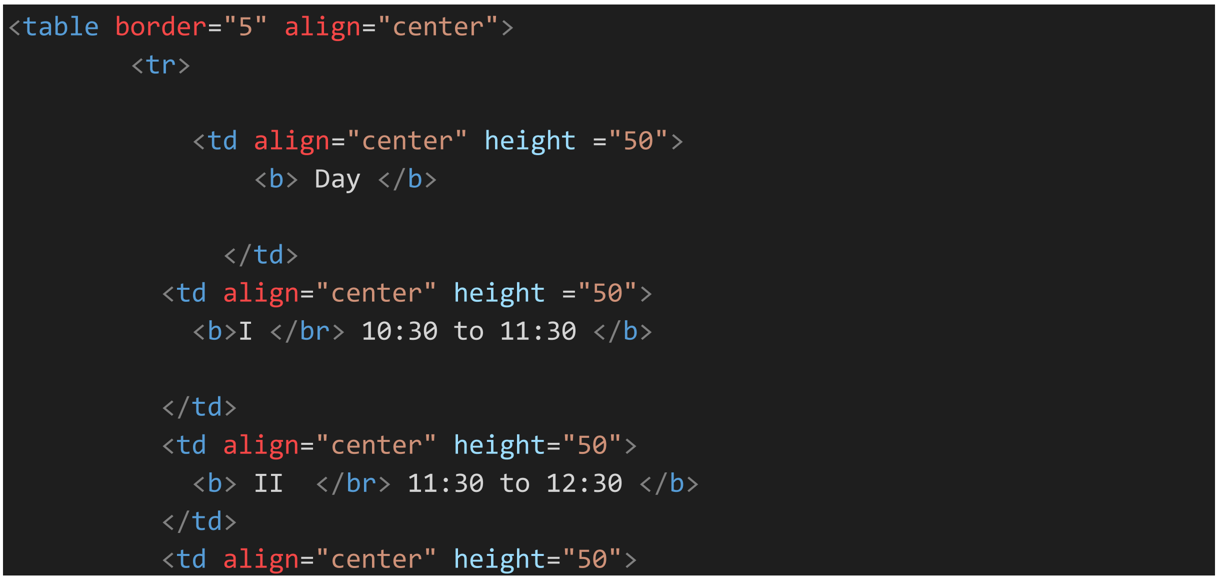


Name	Age
Rani	30
Rajan	35
Akshaya	17
Ashick	13

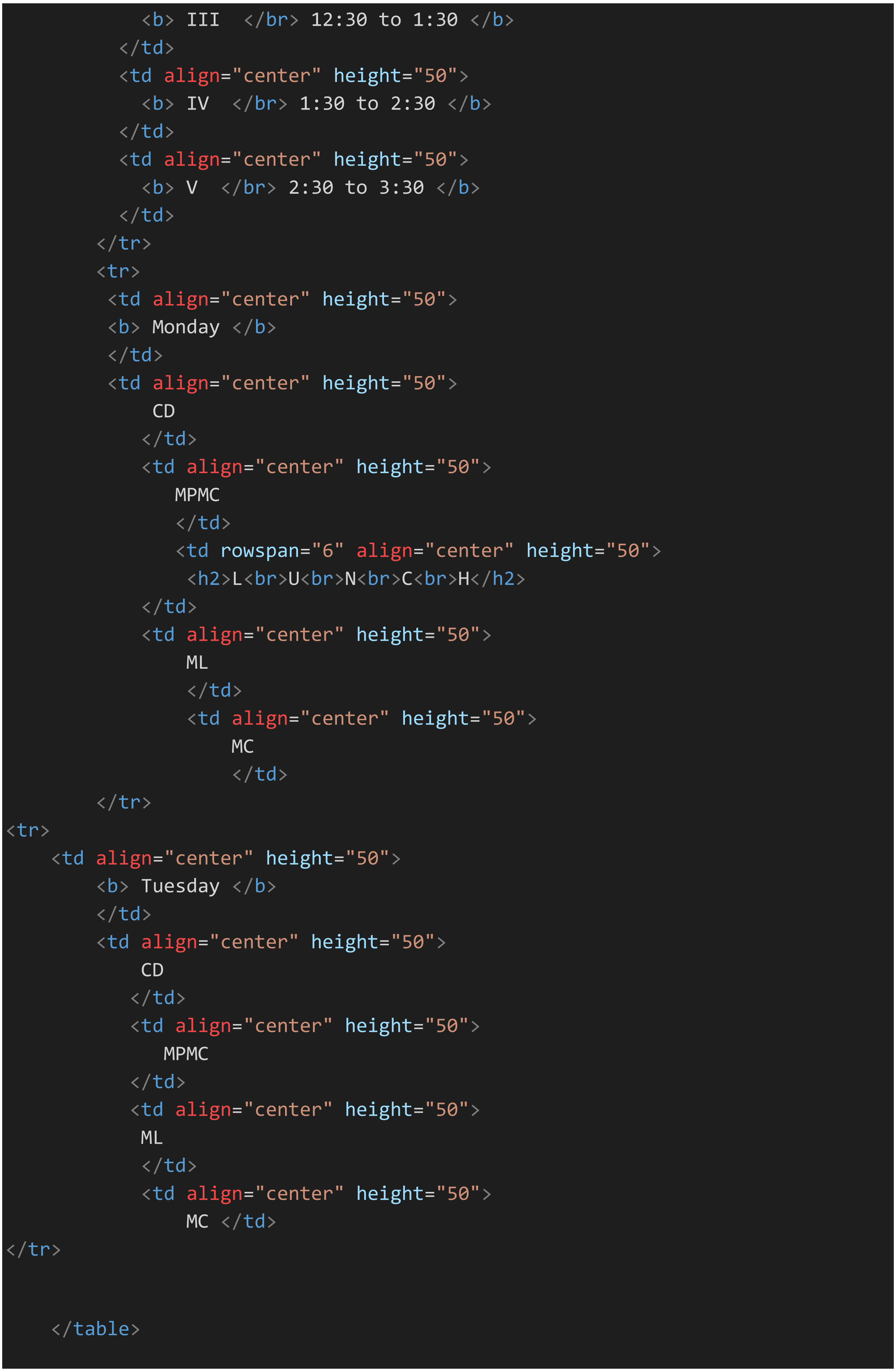
Timetable using table tags



Day	I 10:30 to 11:30	II 11:30 to 12:30	III 12:30 to 1:30	IV 1:30 to 2:30	V 2:30 to 3:30
Monday	CD	MPMC	L U N C H	ML	MC
Tuesday	CD	MPMC		ML	MC



```
<table border="5" align="center">
        <tr>

            <td align="center" height ="50">
                <b> Day </b>

              </td>
          <td align="center" height ="50">
            <b>I </br> 10:30 to 11:30 </b>

          </td>
          <td align="center" height="50">
            <b> II  </br> 11:30 to 12:30 </b>
          </td>
          <td align="center" height="50">
```



```
            <b> III  </br> 12:30 to 1:30 </b>
          </td>
          <td align="center" height="50">
            <b> IV  </br> 1:30 to 2:30 </b>
          </td>
          <td align="center" height="50">
            <b> V  </br> 2:30 to 3:30 </b>
          </td>
        </tr>
        <tr>
         <td align="center" height="50">
         <b> Monday </b>
         </td>
         <td align="center" height="50">
             CD
            </td>
            <td align="center" height="50">
               MPMC
               </td>
               <td rowspan="6" align="center" height="50">
                <h2>L<br>U<br>N<br>C<br>H</h2>
            </td>
            <td align="center" height="50">
                ML
                </td>
                <td align="center" height="50">
                    MC
                    </td>
        </tr>
<tr>
    <td align="center" height="50">
        <b> Tuesday </b>
        </td>
        <td align="center" height="50">
            CD
           </td>
           <td align="center" height="50">
              MPMC
           </td>
           <td align="center" height="50">
            ML
            </td>
            <td align="center" height="50">
                MC </td>
</tr>


    </table>
```

The HTML <form> element can contain one or more of the following form elements:

1. <input>
2. <label>
3. <select>
4. <textarea>
5. <button>
6. <fieldset>
7. <legend>
8. <datalist>

   The <datalist> tag specifies a list of pre-defined options for an <input> element.

   The <datalist> tag is used to provide an "autocomplete" feature for <input> elements. Users will see a drop-down list of pre-defined options as they input data.

9. <output>
10. <option>
11. <optgroup>

    The <optgroup> tag is used to group related options in a <select> element (drop-down list).

Form Attributes:

The following form attributes play the important role:

Attribute	**Value**	**Description**
action	*URL*	Specifies where to send the form-data when a form is submitted
method	get post	Specifies the HTTP method to use when sending form-data
enctype	application/x-www-form-urlencoded multipart/form-data text/plain	Specifies how the form-data should be encoded when submitting it to the server (only for method="post")

Html input Elements:

Here are the different input types you can use in HTML

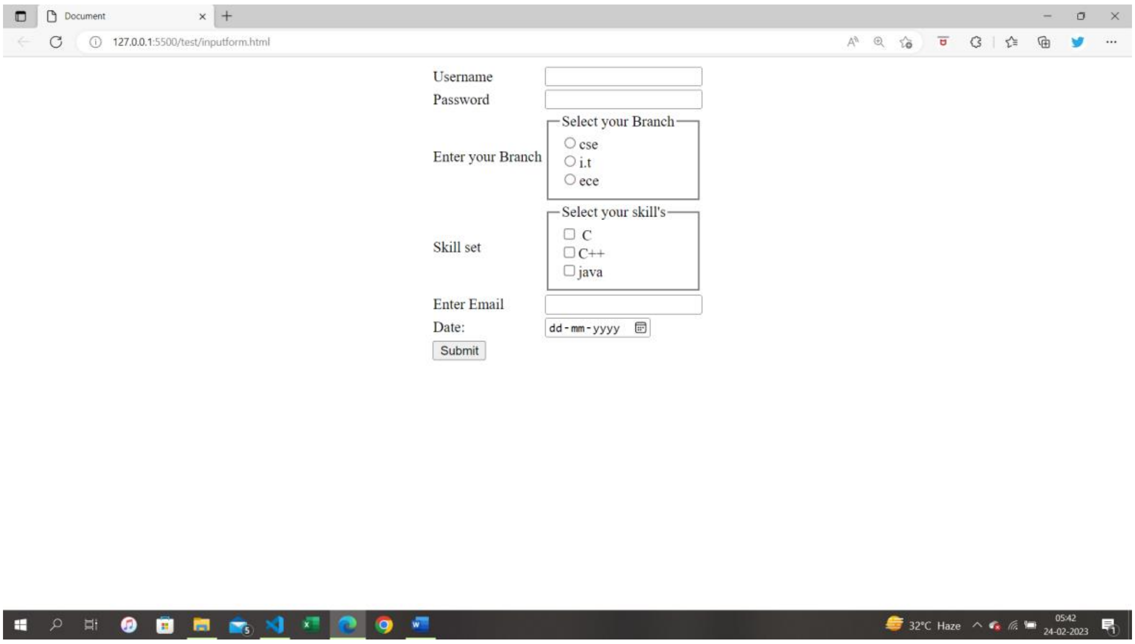
- `<input type="button">`
- `<input type="checkbox">`
- `<input type="date">`
- `<input type="email">`
- `<input type="file">`
- `<input type="hidden">`
- `<input type="number">`
- `<input type="password">`
- `<input type="radio">`
- `<input type="range">`
- `<input type="reset">`
- `<input type="search">`

- <input type="submit">
- <input type="text">

```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">
    <title>Document</title>
</head>

<body>

  <form action="/test/menu.html" method="get">
    <table align="center">

     <tr>
     <td> Username  </td>
     <td> <input type="text" id="usrname" required>   </td>
     </tr>
     <tr>
      <td>Password </td>
       <td> <input type="password" id="pwd" required>  </td>
     </tr>
     <tr>
       <td> Enter your Branch   </td>
       <td> <fieldset>
        <legend> Select your Branch </legend>
        <input type="radio" name="branch">cse </br>
        <input type="radio"  name="branch">i.t </br>
        <input type="radio"  name="branch">ece
       </fieldset>   </td>
     </tr>

     <tr>
        <td>Skill set </td>
        <td> <fieldset>
            <legend>Select your skill's  </legend>
            <input type="checkbox" name="C"> C <br/>
            <input type="checkbox" name="C++">C++ <br/>
            <input type="checkbox" name="java">java
        </fieldset>  </td>
     </tr>
     <tr>
      <td>Enter Email </td>
```

```
          <td><input type="email" id="idem">  </td>
        </tr>
        <tr>

          <td>Date:</td>
          <td><input type="date"/>  </td>
        </tr>
         <tr> <td colspan="2"><input type="submit" id="idsub">  </td> </tr>
         </table>

      </form>
    </body>

    </html>
```

Example of input elements



Username
Password
Enter your Branch — Select your Branch: ○ cse ○ i.t ○ ece
Skill set — Select your skill's: □ C □ C++ □ java
Enter Email
Date: dd-mm-yyyy
Submit

2b) Module Name: Creating Form Elements, Color and Date Pickers, Select and Datalist Elements

Creating Form Elements, Color and Date Pickers, Select and Datalist Elements

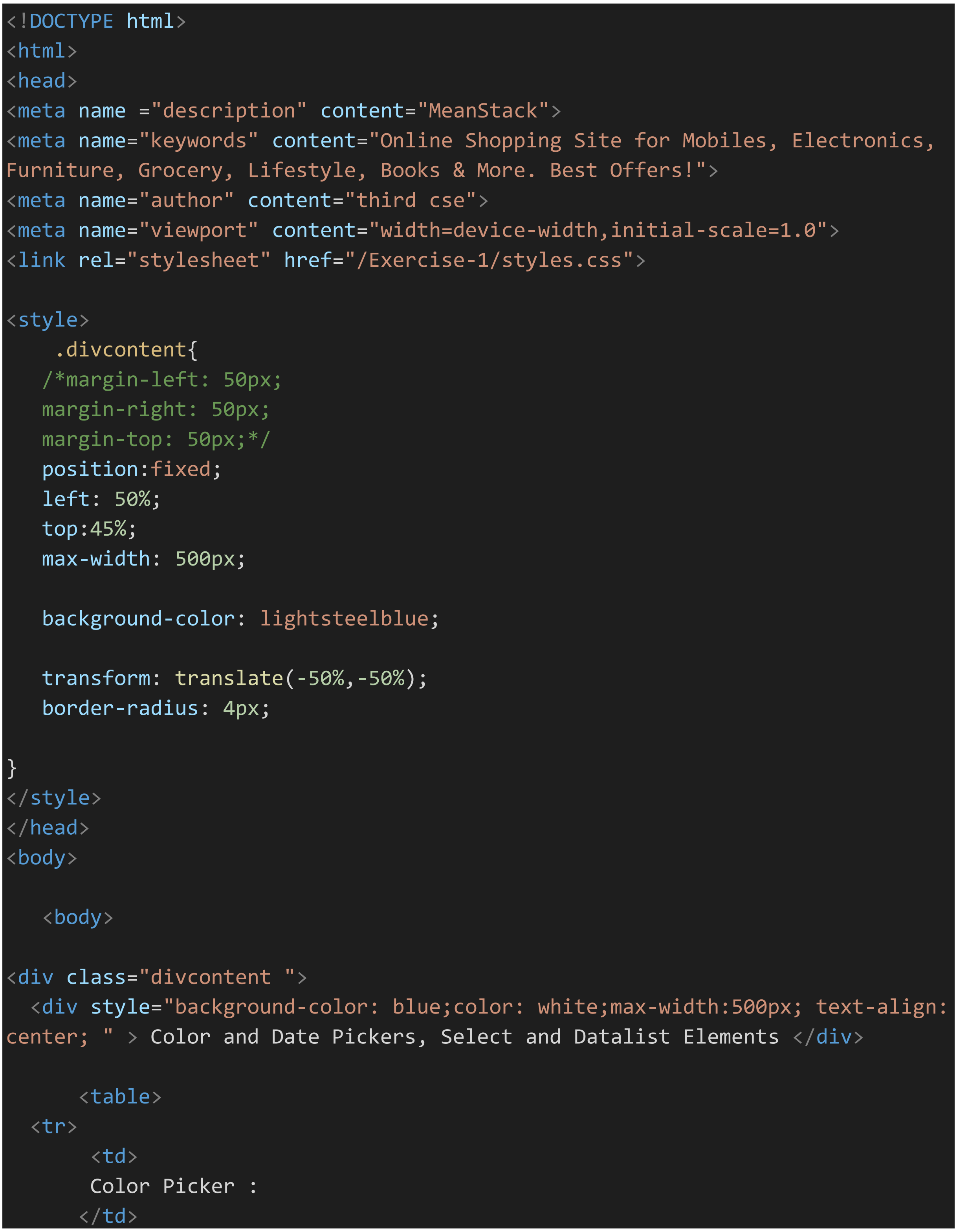
Color pickers : The <input type="date"> defines a date picker.The resulting value includes the year, month, and day.

Date pickers: Use the color picker by clicking and dragging your cursor inside the picker area to highlight a color on the right

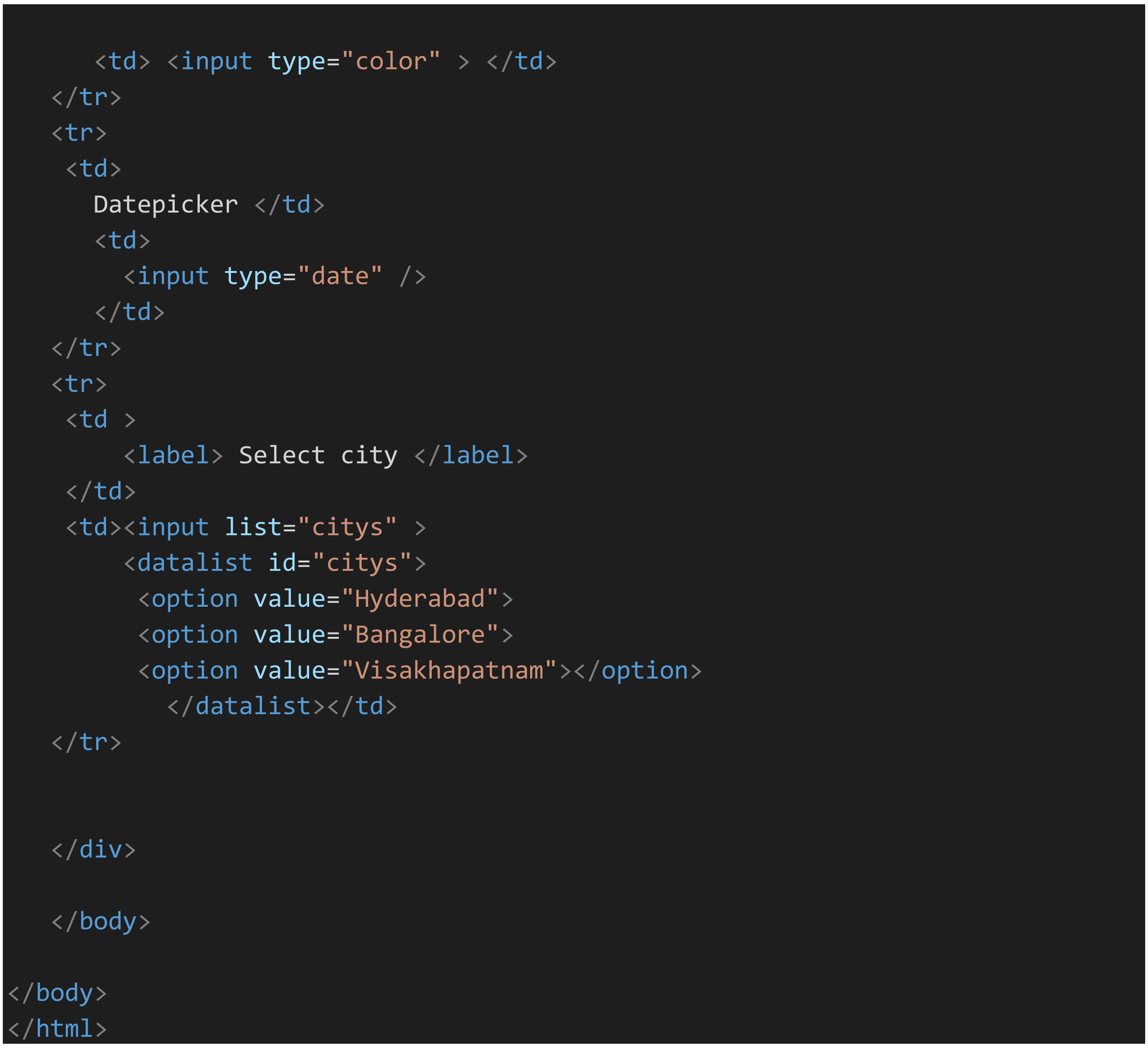
Datalist: The <datalist> tag specifies a list of pre-defined options for an <input> element.

The <datalist> tag is used to provide an "autocomplete" feature for <input> elements. Users will see a drop-down list of pre-defined options as they input data.

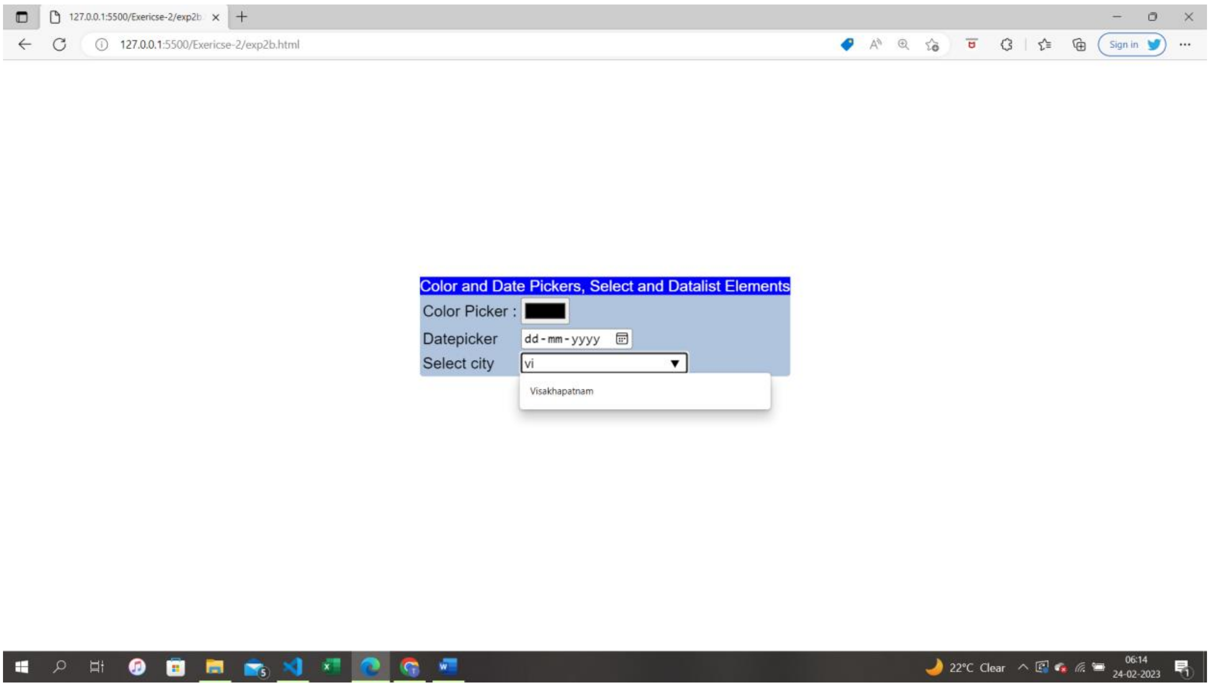
The <datalist> element's id attribute must be equal to the <input> element's list attribute (this binds them together).



```
<!DOCTYPE html>
<html>
<head>
<meta name ="description" content="MeanStack">
<meta name="keywords" content="Online Shopping Site for Mobiles, Electronics, 
Furniture, Grocery, Lifestyle, Books & More. Best Offers!">
<meta name="author" content="third cse">
<meta name="viewport" content="width=device-width,initial-scale=1.0">
<link rel="stylesheet" href="/Exercise-1/styles.css">

<style>
    .divcontent{
   /*margin-left: 50px;
   margin-right: 50px;
   margin-top: 50px;*/
   position:fixed;
   left: 50%;
   top:45%;
   max-width: 500px;

   background-color: lightsteelblue;

   transform: translate(-50%,-50%);
   border-radius: 4px;

}
</style>
</head>
<body>

   <body>

<div class="divcontent ">
  <div style="background-color: blue;color: white;max-width:500px; text-align: 
center; " > Color and Date Pickers, Select and Datalist Elements </div>

      <table>
  <tr>
       <td>
       Color Picker :
      </td>
```



```
      <td> <input type="color" > </td>
   </tr>
   <tr>
    <td>
      Datepicker </td>
      <td>
        <input type="date" />
      </td>
   </tr>
   <tr>
    <td >
        <label> Select city </label>
    </td>
    <td><input list="citys" >
        <datalist id="citys">
         <option value="Hyderabad">
         <option value="Bangalore">
         <option value="Visakhapatnam"></option>
           </datalist></td>
   </tr>


   </div>

   </body>

</body>
</html>
```



127.0.0.1:5500/Exericse-2/exp2b
127.0.0.1:5500/Exericse-2/exp2b.html
Sign in
22°C Clear
06:14
24-02-2023

Color and Date Pickers, Select and Datalist Elements

Color Picker :

Datepicker dd-mm-yyyy

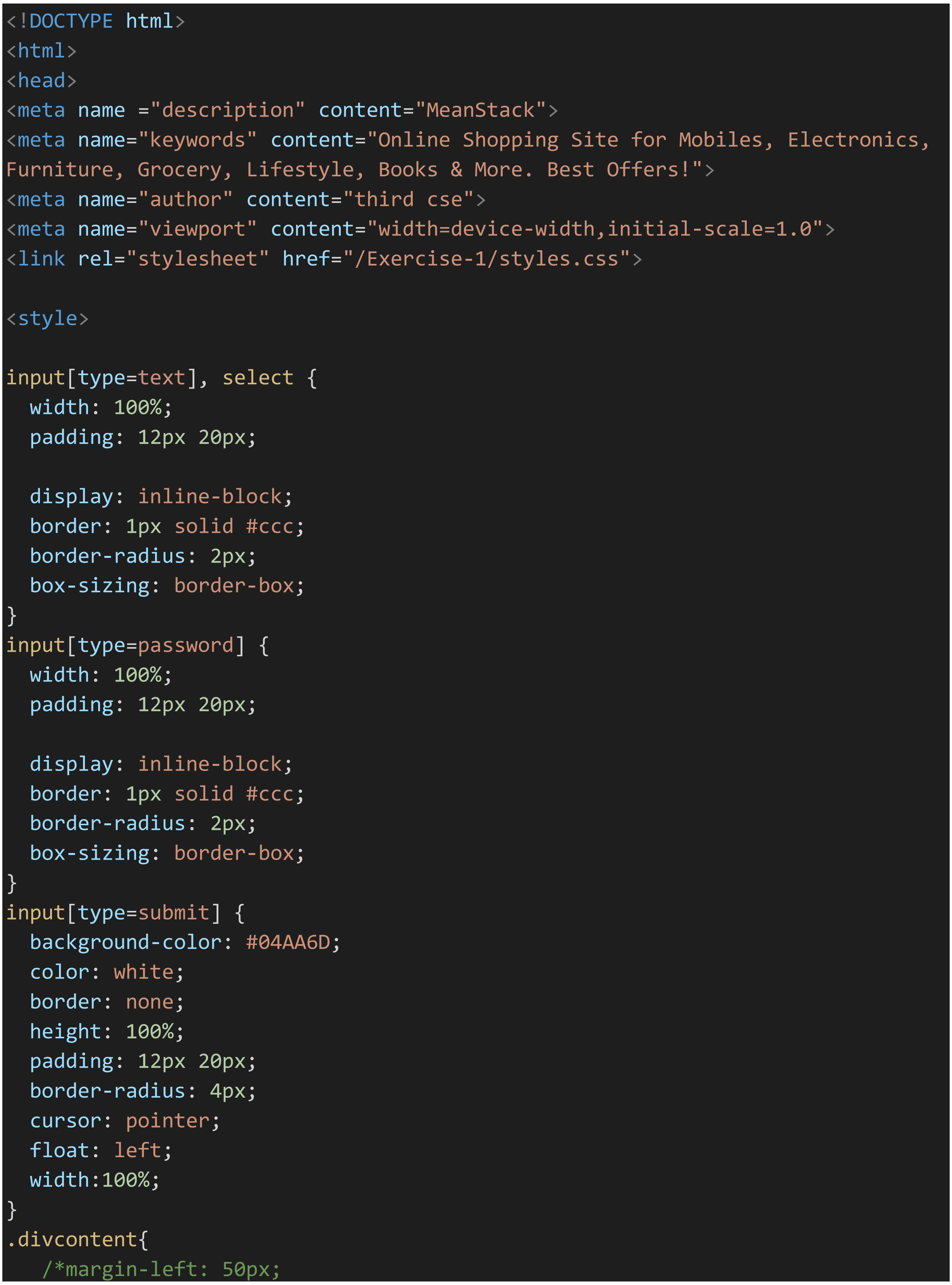
Select city vi

Visakhapatnam

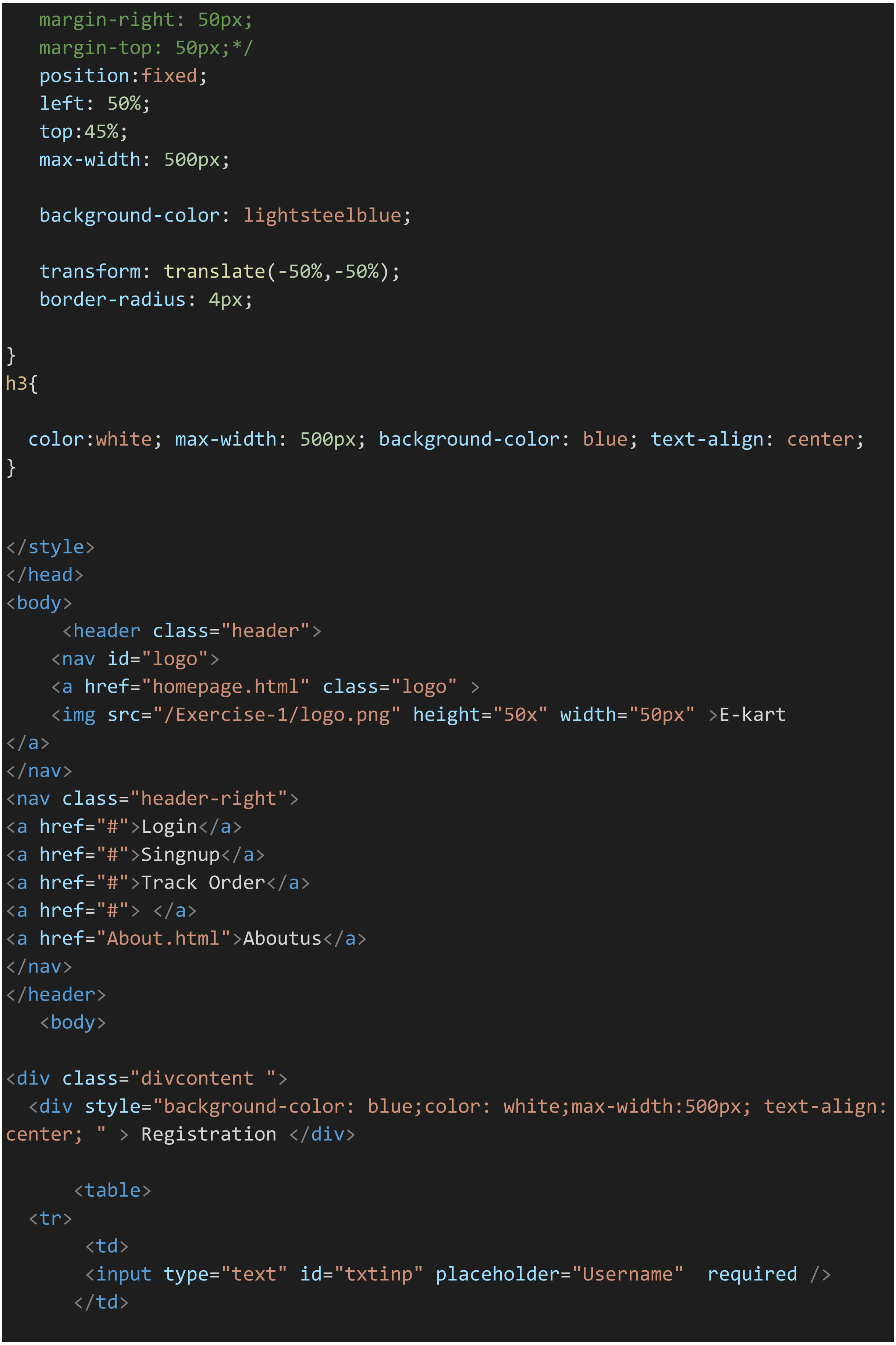
2C) Module Name: Input Elements – Attributes

Enhance Signup page functionality of IEKart's Shopping application by adding attributes to input elements.

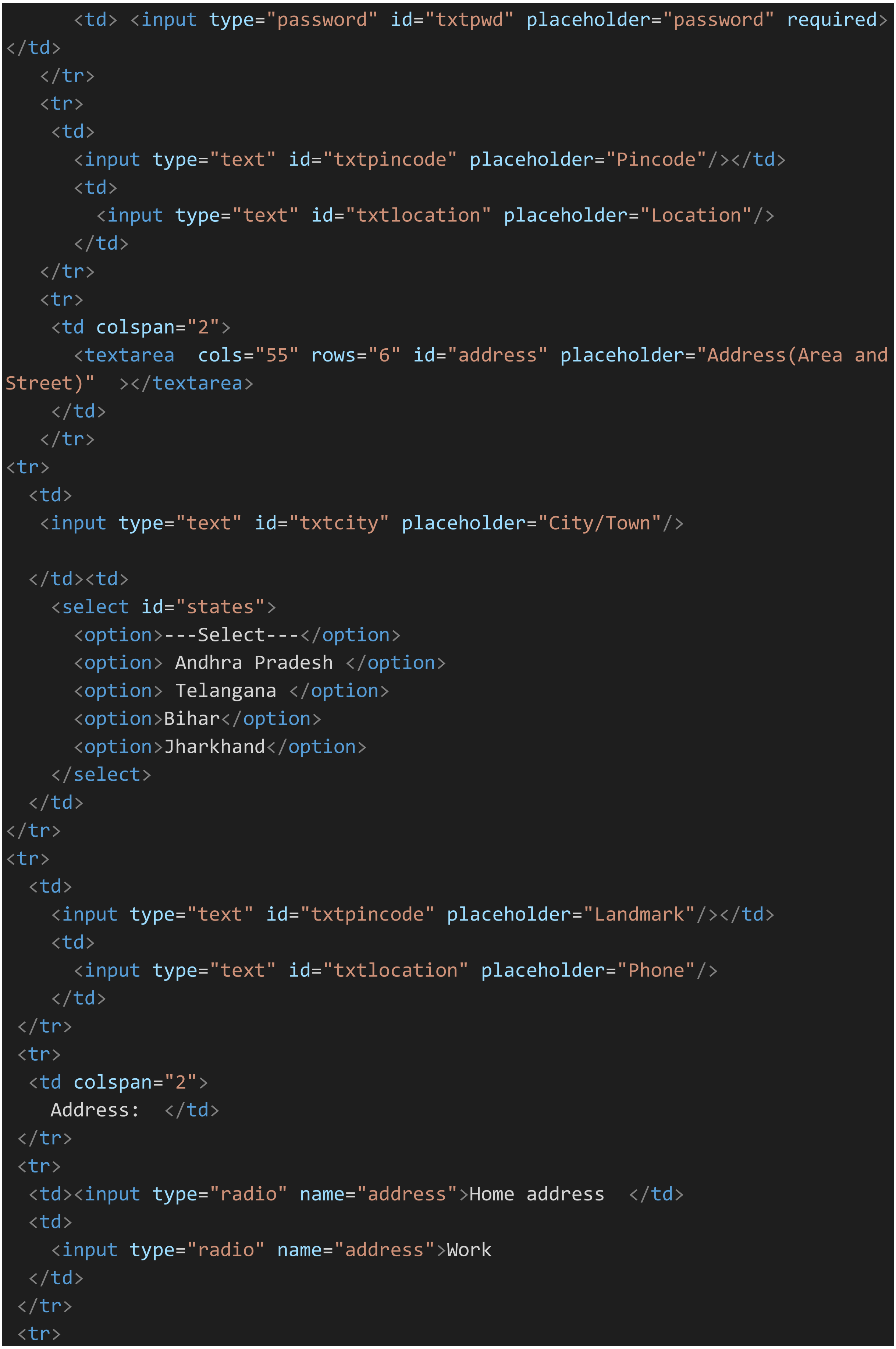
Signup Page(Registration Page)



```
<!DOCTYPE html>
<html>
<head>
<meta name ="description" content="MeanStack">
<meta name="keywords" content="Online Shopping Site for Mobiles, Electronics,
Furniture, Grocery, Lifestyle, Books & More. Best Offers!">
<meta name="author" content="third cse">
<meta name="viewport" content="width=device-width,initial-scale=1.0">
<link rel="stylesheet" href="/Exercise-1/styles.css">

<style>

input[type=text], select {
  width: 100%;
  padding: 12px 20px;

  display: inline-block;
  border: 1px solid #ccc;
  border-radius: 2px;
  box-sizing: border-box;
}
input[type=password] {
  width: 100%;
  padding: 12px 20px;

  display: inline-block;
  border: 1px solid #ccc;
  border-radius: 2px;
  box-sizing: border-box;
}
input[type=submit] {
  background-color: #04AA6D;
  color: white;
  border: none;
  height: 100%;
  padding: 12px 20px;
  border-radius: 4px;
  cursor: pointer;
  float: left;
  width:100%;
}
.divcontent{
   /*margin-left: 50px;
```



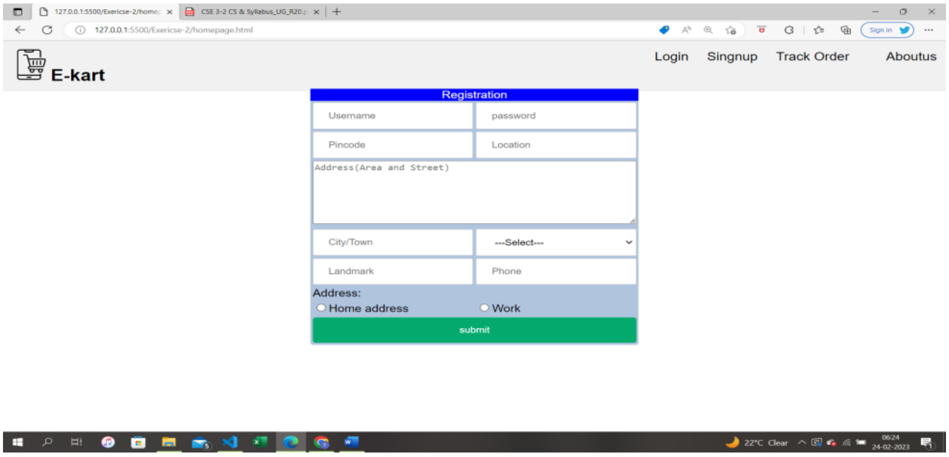
```
   margin-right: 50px;
   margin-top: 50px;*/
   position:fixed;
   left: 50%;
   top:45%;
   max-width: 500px;

   background-color: lightsteelblue;

   transform: translate(-50%,-50%);
   border-radius: 4px;

}
h3{

  color:white; max-width: 500px; background-color: blue; text-align: center;
}


</style>
</head>
<body>
     <header class="header">
    <nav id="logo">
    <a href="homepage.html" class="logo" >
    <img src="/Exercise-1/logo.png" height="50x" width="50px" >E-kart
</a>
</nav>
<nav class="header-right">
<a href="#">Login</a>
<a href="#">Singnup</a>
<a href="#">Track Order</a>
<a href="#"> </a>
<a href="About.html">Aboutus</a>
</nav>
</header>
   <body>

<div class="divcontent ">
  <div style="background-color: blue;color: white;max-width:500px; text-align:
center; " > Registration </div>

      <table>
  <tr>
       <td>
       <input type="text" id="txtinp" placeholder="Username"  required />
      </td>
```



```
      <td> <input type="password" id="txtpwd" placeholder="password" required>
</td>
   </tr>
   <tr>
    <td>
      <input type="text" id="txtpincode" placeholder="Pincode"/></td>
      <td>
        <input type="text" id="txtlocation" placeholder="Location"/>
      </td>
   </tr>
   <tr>
    <td colspan="2">
      <textarea  cols="55" rows="6" id="address" placeholder="Address(Area and
Street)"  ></textarea>
    </td>
   </tr>
<tr>
  <td>
   <input type="text" id="txtcity" placeholder="City/Town"/>

  </td><td>
    <select id="states">
      <option>---Select---</option>
      <option> Andhra Pradesh </option>
      <option> Telangana </option>
      <option>Bihar</option>
      <option>Jharkhand</option>
    </select>
  </td>
</tr>
<tr>
  <td>
    <input type="text" id="txtpincode" placeholder="Landmark"/></td>
    <td>
      <input type="text" id="txtlocation" placeholder="Phone"/>
    </td>
 </tr>
 <tr>
  <td colspan="2">
    Address:  </td>
 </tr>
 <tr>
  <td><input type="radio" name="address">Home address  </td>
  <td>
    <input type="radio" name="address">Work
  </td>
 </tr>
 <tr>
```

```
  <td colspan="2" >

    <input type="submit" value="submit"/>
  </td>
 </tr>
   </table>
   </div>

   </body>
</body>
</html>
```

Output :



2d). Add media content in a frame using audio, video, iframe elements to the Home page of IEKart's Shopping application.

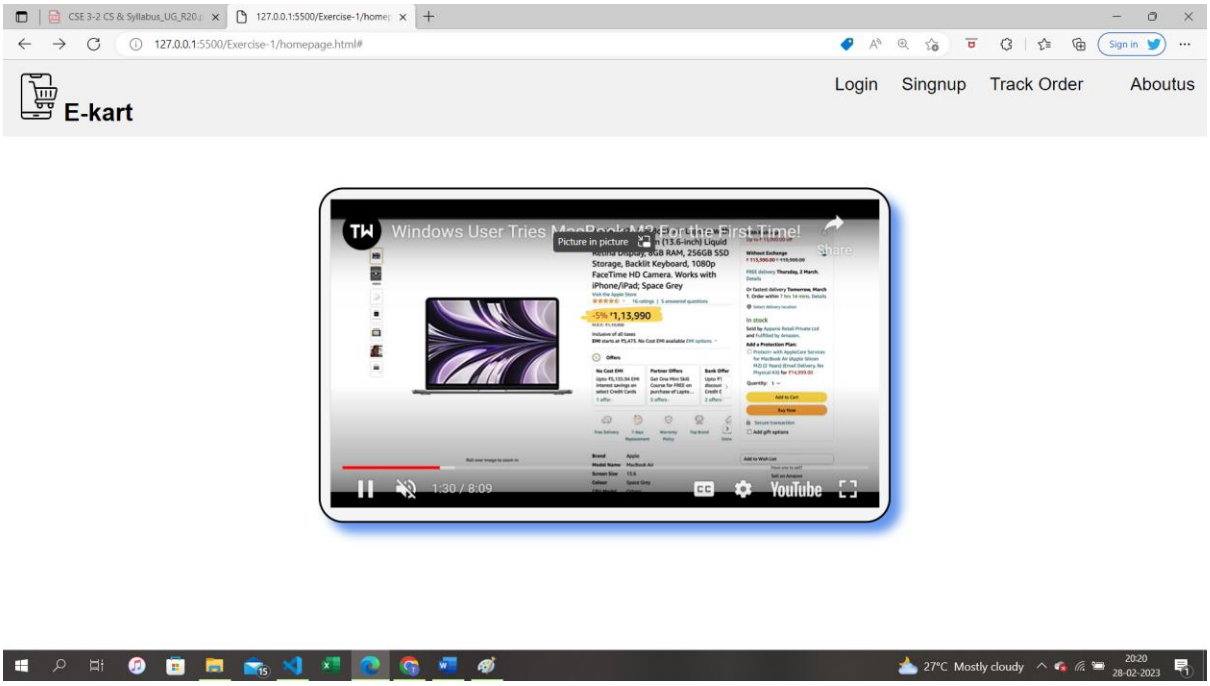
For this section we add YouTube video on our homepage using iframe tag

The <iframe> tag specifies an inline frame.

An inline frame is used to embed another document within the current HTML document.

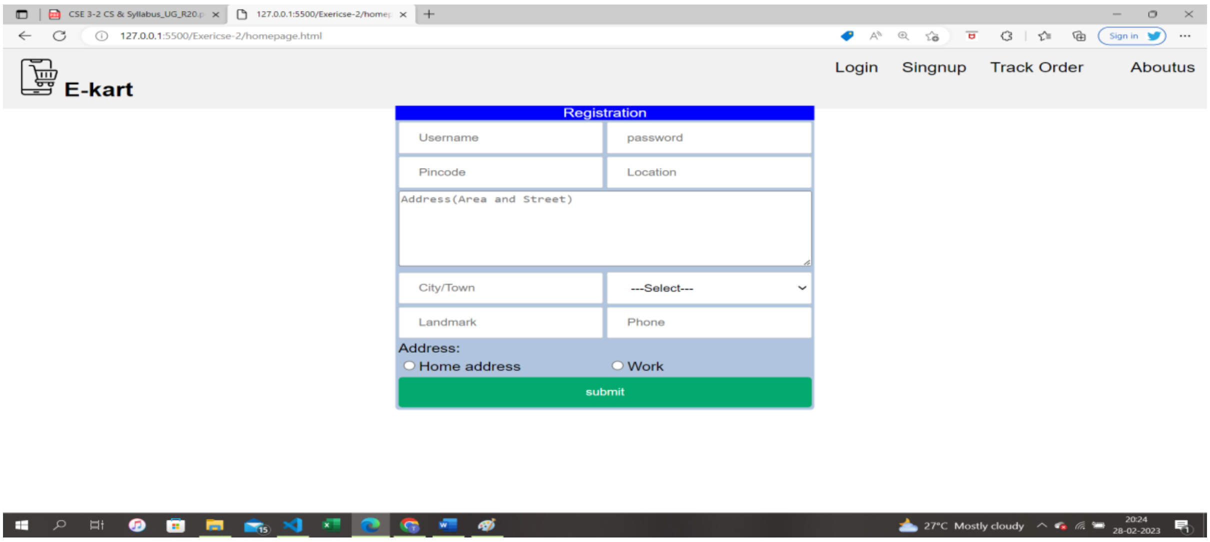
Add below script in Exercises -1 homepage.html in the place centre div

```
<div class="centerdiv">

      <iframe width="560" height="315"
src="https://www.youtube.com/embed/a425hb1Zsjc" title="YouTube video player"
frameborder="0" allow="accelerometer; autoplay; clipboard-write; encrypted-
media; gyroscope; picture-in-picture; web-share" allowfullscreen>

      </iframe>

      </div>
```


127.0.0.1:5500/Exercise-1/homepage.html#
E-kart
Login
Singnup
Track Order
Aboutus
Windows User Tries MacBook M2 For the First Time!
1:30 / 8:09

When we add above script in our homepage.html in Exercises -1 we got output like above.

Now click signup link then navigate to registration page



Registration

Username	password
Pincode	Location
Address(Area and Street)	
City/Town	---Select---
Landmark	Phone

Address:

○ Home address ○ Work

submit

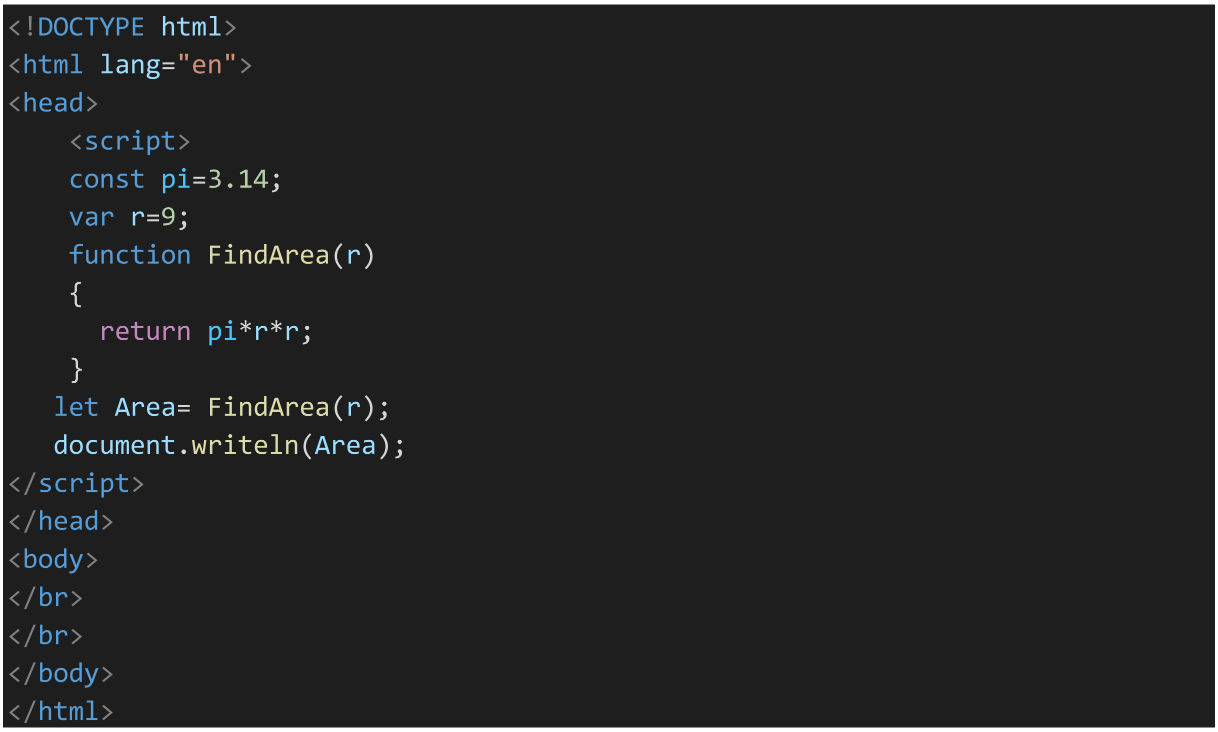
Exercises-3: A)Write a JavaScript program to find the area of a circle using radius (var and let - reassign and observe the difference with var and let) and PI (const)

Difference between let and var and const :

In JavaScript, users can declare a variable using 3 keywords that are var, let, and const

var	let	const
The scope of a *var* variable is functional scope.	The scope of a *let* variable is block scope.	The scope of a *const* variable is block scope.
It can be updated and re-declared into the scope.	It can be updated but cannot be re-declared into the scope.	It cannot be updated or re-declared into the scope.
It can be declared without initialization.	It can be declared without initialization.	It cannot be declared without initialization.
It can be accessed without initialization as its default value is “undefined”.	It cannot be accessed without initialization otherwise it will give ‘referenceError’.	It cannot be accessed without initialization, as it cannot be declared without initialization.

Program:-



```
<!DOCTYPE html>
<html lang="en">
<head>
    <script>
    const pi=3.14;
    var r=9;
    function FindArea(r)
    {
      return pi*r*r;
    }
   let Area= FindArea(r);
   document.writeln(Area);
</script>
</head>
<body>
</br>
</br>
</body>
</html>
```

Data Types: Every Variable has a data type that tells what kind of data is being stored in a variable. There are two types of data types in JavaScript namely Primitive data types and Non-primitive data types.

Primitive data types: The predefined data types provided by JavaScript language are known as primitive data types.

Non-primitive data types: The data types that are derived from primitive data types of the JavaScript language are known as non-primitive data types. It is also known as derived data types or reference data types.

There are five types of primitive data types in Javascript.

1. **Number:** Number data type in javascript can be used to hold decimal values as well as values without decimals.
2. **String:** The string data type in javascript represents a sequence of characters that are surrounded by single or double quotes.
3. **Undefined:** The meaning of undefined is 'value is not assigned'.
4. **Boolean:** The boolean data type can accept only two values i.e. true and false.
5. **Null:** This data type can hold only one possible value that is null.

Non-Primitive data types in Javascript :

1. Object: Object in Javascript is an entity having properties and methods. Everything is an object in javascript.

How to create an object in javascript:

```
let student = {firstName:"ravi", lastName:"kumar", age:25,
city:"vizag"};
```

or

```
const student = new Object();
person.firstName = "ravi";
person.lastName = "Kumar";
person.age = 25;
person.city = "vizag";
```

2.Array: With the help of an array, we can store more than one element under a single name.

Creating array :
A=[item1,item2,……];

```
CONST BIKES  = ["TRIUMPH", "BMW", "KAWASAKI NINJA "];
```

<u>Template Literals :</u>

Template Literals use back-ticks (``) rather than the quotes ("") to define a string:

<u>Interpolation:</u>

Template literals provide an easy way to interpolate variables and expressions into strings.

The method is called string interpolation.

The syntax is:

${...}

Variable Substitutions:

Template literals allow variables in strings:

```
let Subject ="MeanStack";
    let Code = "R2011087";
    let text =`SubjectName : ${Subject} , SubjectCode : ${Code}  `;
    document.writeln(text);
```

Expression Substitution:

```
  let Mobileprice=7000;
    let Headset = 100;
    let totprice =`TotalPrice ${(Mobileprice + Headset) } `;
    document.writeln(totprice);
```

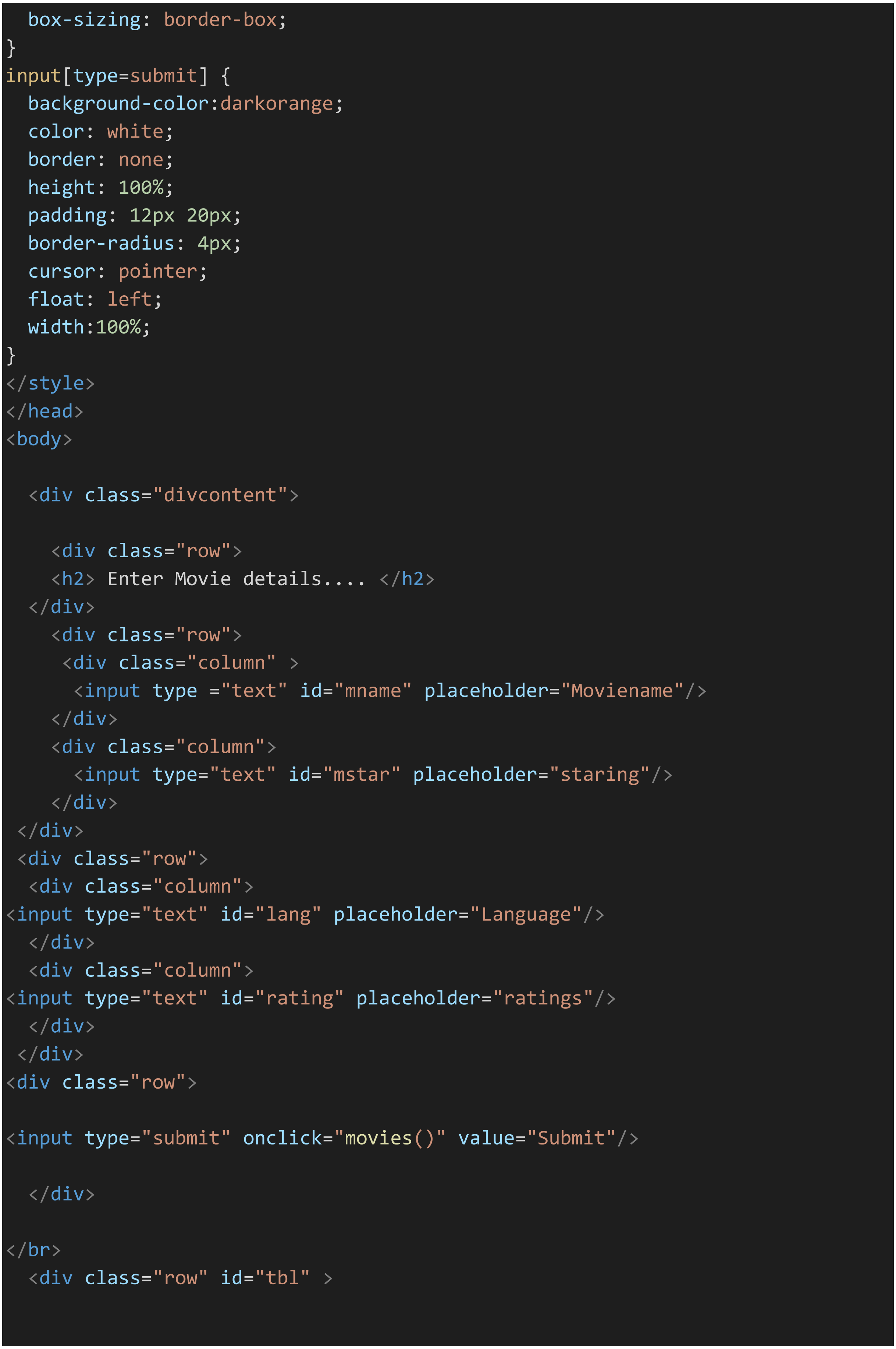
Another example of Template literals :

```
 function add()
     {
     let header = "ACET";
     let tags = ["CSE","ECE","IT"];
     let html =`<h2> ${header}  </h2> `;
     for(const x of tags)
     {
        html +=`<li> ${x} </li>`;
     }
     html +=`</ul>`;
     document.getElementById('demo').innerHTML=html;
    }
```

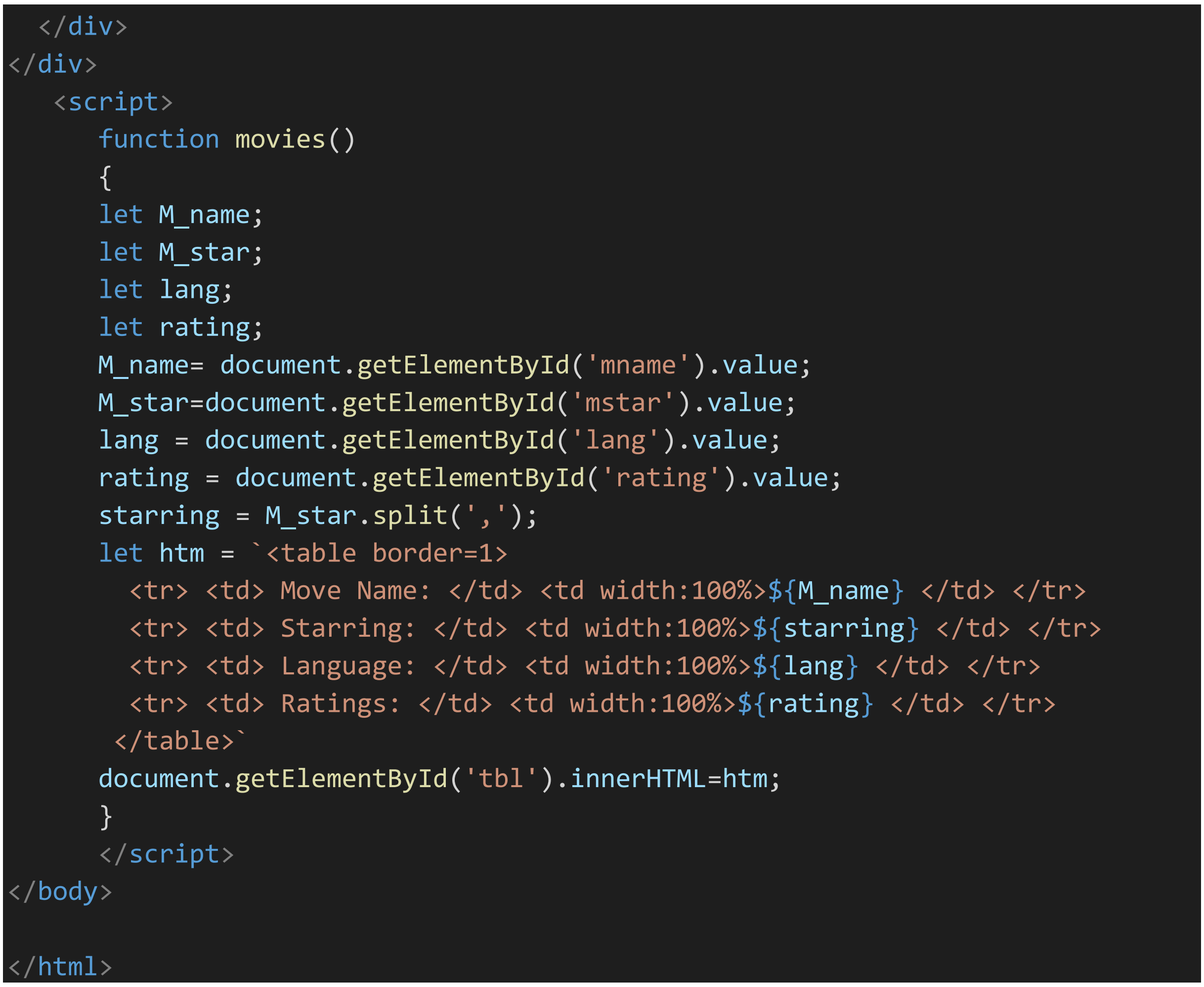
Solution of 3B:

Exercises-3: B) Write JavaScript code to display the movie details such as movie name, starring, language, and ratings. Initialize the variables with values of appropriate types. Use template literals wherever necessary.

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

    <title>Movie Rating </title>
<style>
    .divcontent{
   /*margin-left: 50px;
   margin-right: 50px;
   margin-top: 50px;*/
   position:fixed;
   left: 50%;
   top:20%;
   max-width: 500px;
   background-color: white;
   transform: translate(-50%,-50%);
   border-radius: 4px;

}
.column {
  float: left;
  width: 50%;
}

/* Clear floats after the columns */
.row:after {
  content: "";
  display: table;
  clear: both;
}
input[type=text], select {
  width: 100%;
  padding: 12px 20px;

  display: inline-block;
  border: 1px solid #ccc;
  border-radius: 2px;
```

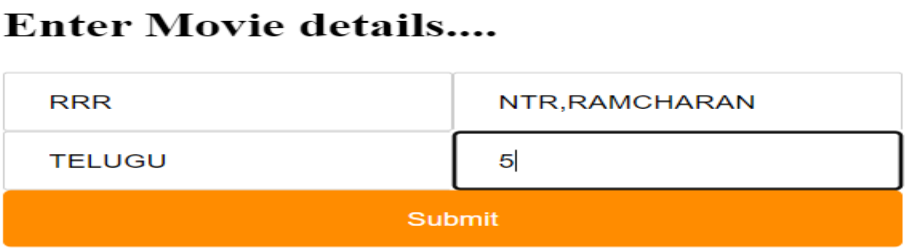


```
  box-sizing: border-box;
}
input[type=submit] {
  background-color:darkorange;
  color: white;
  border: none;
  height: 100%;
  padding: 12px 20px;
  border-radius: 4px;
  cursor: pointer;
  float: left;
  width:100%;
}
</style>
</head>
<body>

  <div class="divcontent">

    <div class="row">
    <h2> Enter Movie details.... </h2>
  </div>
    <div class="row">
     <div class="column" >
      <input type ="text" id="mname" placeholder="Moviename"/>
    </div>
    <div class="column">
      <input type="text" id="mstar" placeholder="staring"/>
    </div>
 </div>
 <div class="row">
  <div class="column">
<input type="text" id="lang" placeholder="Language"/>
  </div>
  <div class="column">
<input type="text" id="rating" placeholder="ratings"/>
  </div>
 </div>
<div class="row">

<input type="submit" onclick="movies()" value="Submit"/>

  </div>

</br>
  <div class="row" id="tbl" >
```



```
  </div>
</div>
   <script>
      function movies()
      {
      let M_name;
      let M_star;
      let lang;
      let rating;
      M_name= document.getElementById('mname').value;
      M_star=document.getElementById('mstar').value;
      lang = document.getElementById('lang').value;
      rating = document.getElementById('rating').value;
      starring = M_star.split(',');
      let htm = `<table border=1>
        <tr> <td> Move Name: </td> <td width:100%>${M_name} </td> </tr>
        <tr> <td> Starring: </td> <td width:100%>${starring} </td> </tr>
        <tr> <td> Language: </td> <td width:100%>${lang} </td> </tr>
        <tr> <td> Ratings: </td> <td width:100%>${rating} </td> </tr>
       </table>`
      document.getElementById('tbl').innerHTML=htm;
      }
      </script>
</body>

</html>
```

Output:

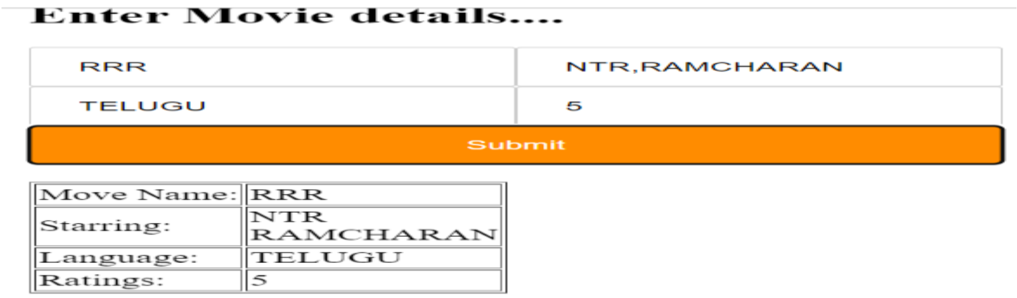


Enter Movie details....

RRR | NTR,RAMCHARAN

TELUGU | 5

After enter the details of movie then click submit button out put display like below



Enter Movie details....

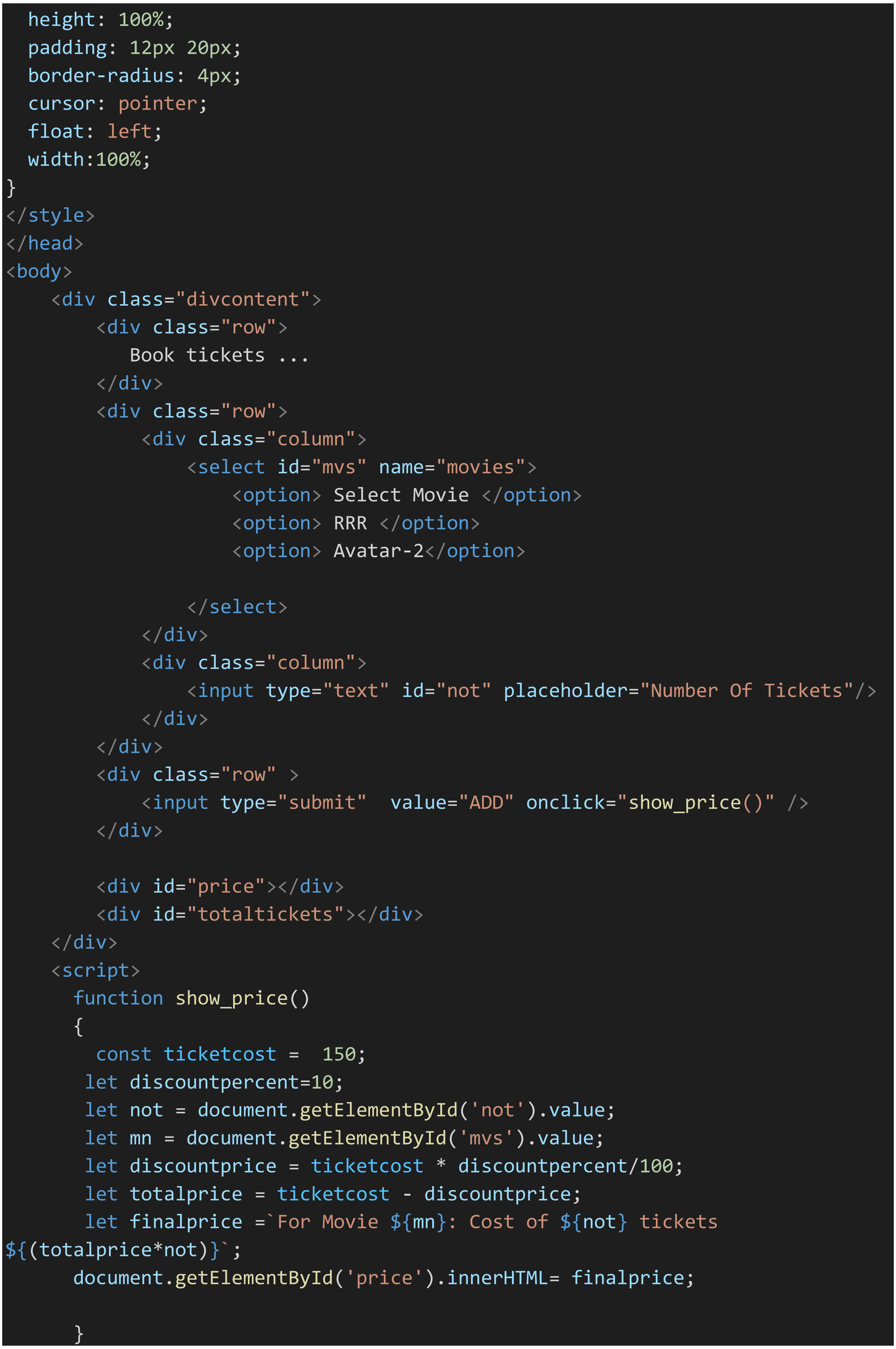
RRR | NTR,RAMCHARAN

TELUGU | 5

Move Name:	RRR
Starring:	NTR RAMCHARAN
Language:	TELUGU
Ratings:	5

3 C) Write JavaScript code to book movie tickets online and calculate the total price, considering the number of tickets and price per ticket as Rs. 150. Also, apply a festive season discount of 10% and calculate the discounted amount.

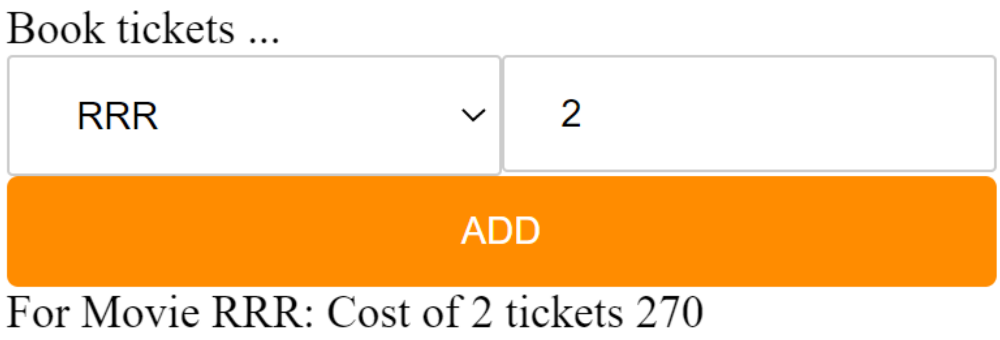
```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta http-equiv="X-UA-Compatible" content="IE=edge">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Book Movie Tickets...</title>
    <style>
      .divcontent
    {
  /*margin-left: 50px;
   margin-right: 50px;
   margin-top: 50px;*/
   position:fixed;
   left: 50%;
   top:20%;
   max-width: 500px;
   background-color: white;
   transform: translate(-50%,-50%);
   border-radius: 4px;
}
.column {
  float: left;
  width: 50%;
}

/* Clear floats after the columns */
.row::after {
  display: table;
  clear: both;
}
input[type=text], select {
  width: 100%;
  padding: 12px 20px;
  display: inline-block;
  border: 1px solid #ccc;
  border-radius: 2px;
  box-sizing: border-box;
}
input[type=submit] {
  background-color:darkorange;
  color: white;
  border: none;
```



```
  height: 100%;
  padding: 12px 20px;
  border-radius: 4px;
  cursor: pointer;
  float: left;
  width:100%;
}
</style>
</head>
<body>
    <div class="divcontent">
        <div class="row">
           Book tickets ...
        </div>
        <div class="row">
            <div class="column">
                <select id="mvs" name="movies">
                    <option> Select Movie </option>
                    <option> RRR </option>
                    <option> Avatar-2</option>

                </select>
            </div>
            <div class="column">
                <input type="text" id="not" placeholder="Number Of Tickets"/>
            </div>
        </div>
        <div class="row" >
            <input type="submit"  value="ADD" onclick="show_price()" />
        </div>

        <div id="price"></div>
        <div id="totaltickets"></div>
    </div>
    <script>
      function show_price()
      {
        const ticketcost =  150;
       let discountpercent=10;
       let not = document.getElementById('not').value;
       let mn = document.getElementById('mvs').value;
       let discountprice = ticketcost * discountpercent/100;
       let totalprice = ticketcost - discountprice;
       let finalprice =`For Movie ${mn}: Cost of ${not} tickets
${(totalprice*not)}`;
      document.getElementById('price').innerHTML= finalprice;

      }
```

```
    </script>
</body>
</html>
```

Out Put:



Book tickets ...

RRR

2

For Movie RRR: Cost of 2 tickets 270

Functions in JavaScript:

Module Name: Types of Functions, Declaring and Invoking Function, Arrow Function, Function Parameters, Nested Function, Built-in Functions, Variable Scope in Functions

JavaScript functions are used to perform operations. We can call JavaScript function many times to reuse the code.

There are mainly two advantages of JavaScript functions.

1. **Code reusability**: We can call a function several times so it save coding.
2. **Less coding**: It makes our program compact. We don't need to write many lines of code each time to perform a common task.

Java script functions example:

```
<script>

function msg(){
alert("hello! this is message");
}
 </script>
<input type="button" onclick="msg()" value="call function"/>
```

Java script function with arguments:

```
<script>
function getcube(number){
alert(number*number*number);
}
</script>
<form>
<input type="button" value="click" onclick="getcube(4)"/>
</form>
```

Function with return values:

```
<script>
function getInfo(){
return "hello javatscript! How r u?";
  }
a =getinfo();
document.getelementbyid(a);
</script>
```

Arrow Function:

Arrow function were introduced in ES6

Arrow function allow us to write shorter function syntax:

```
let myFunction = (a, b) => a * b;
```

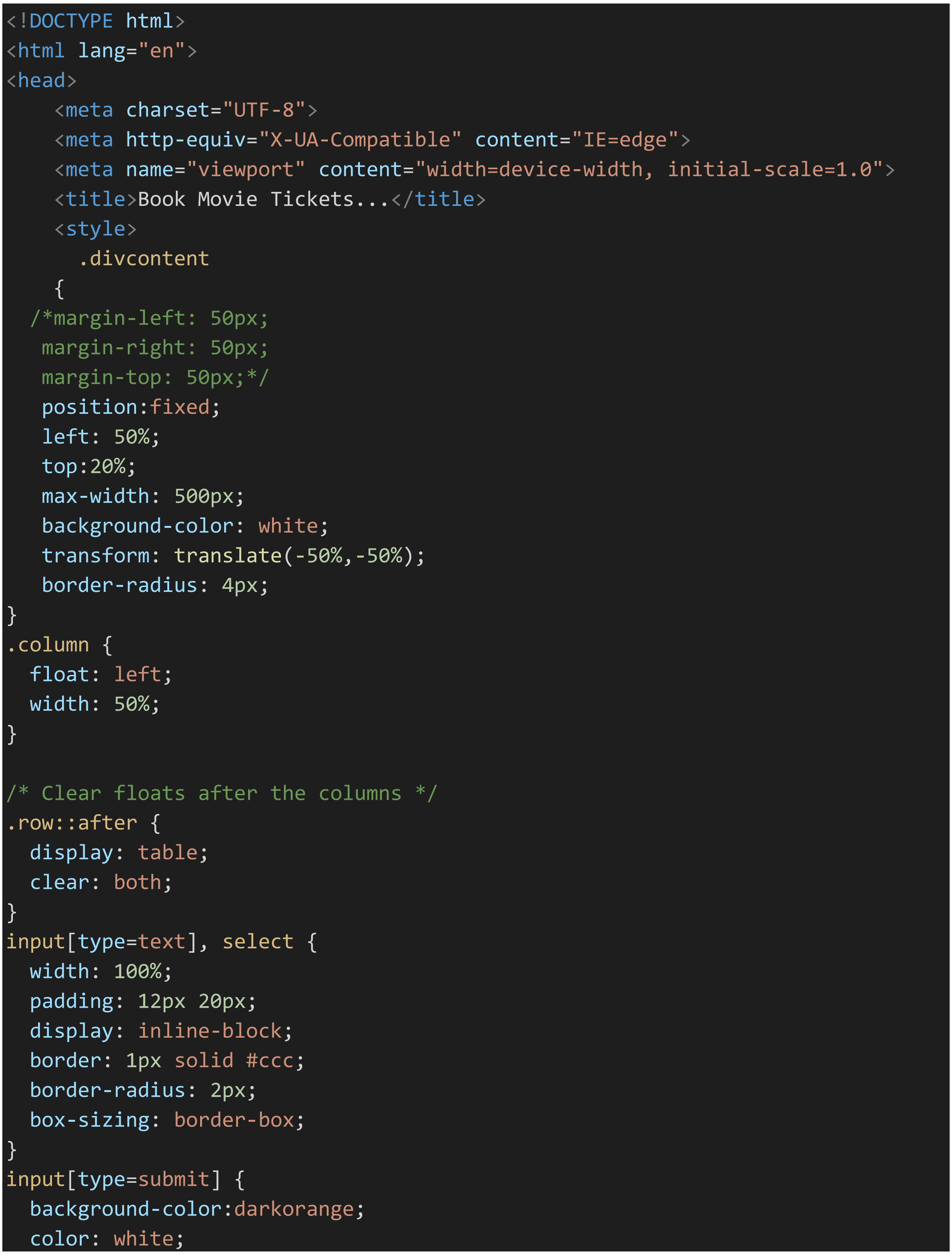
Example of arrow function length of the elements of each array:

```
const materials = [ ‘ACET','CSE','IT','MECH’];

console.log(materials.map(material => material.length));
```

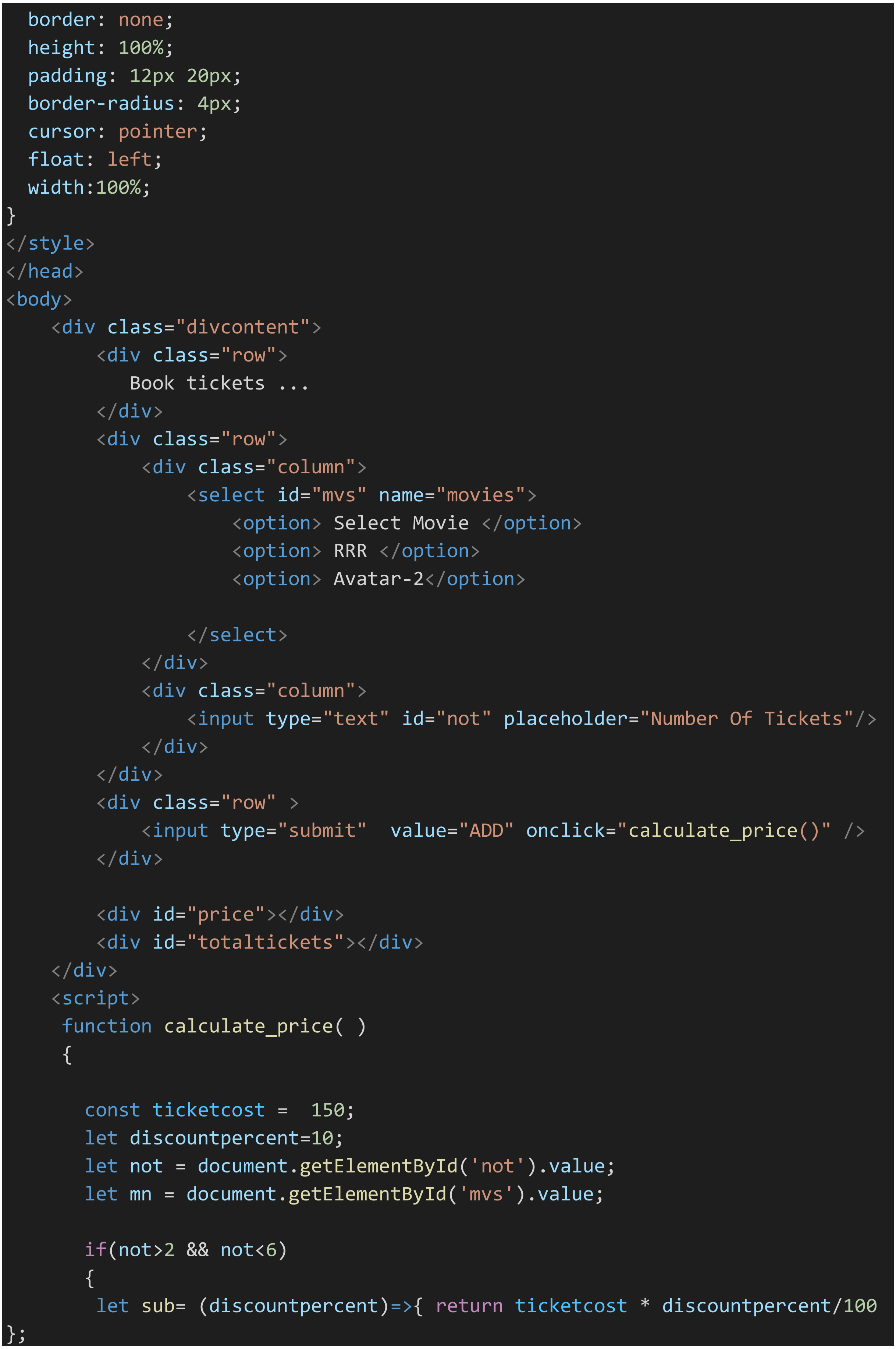
O/p: 4,3,2,4

4 A)

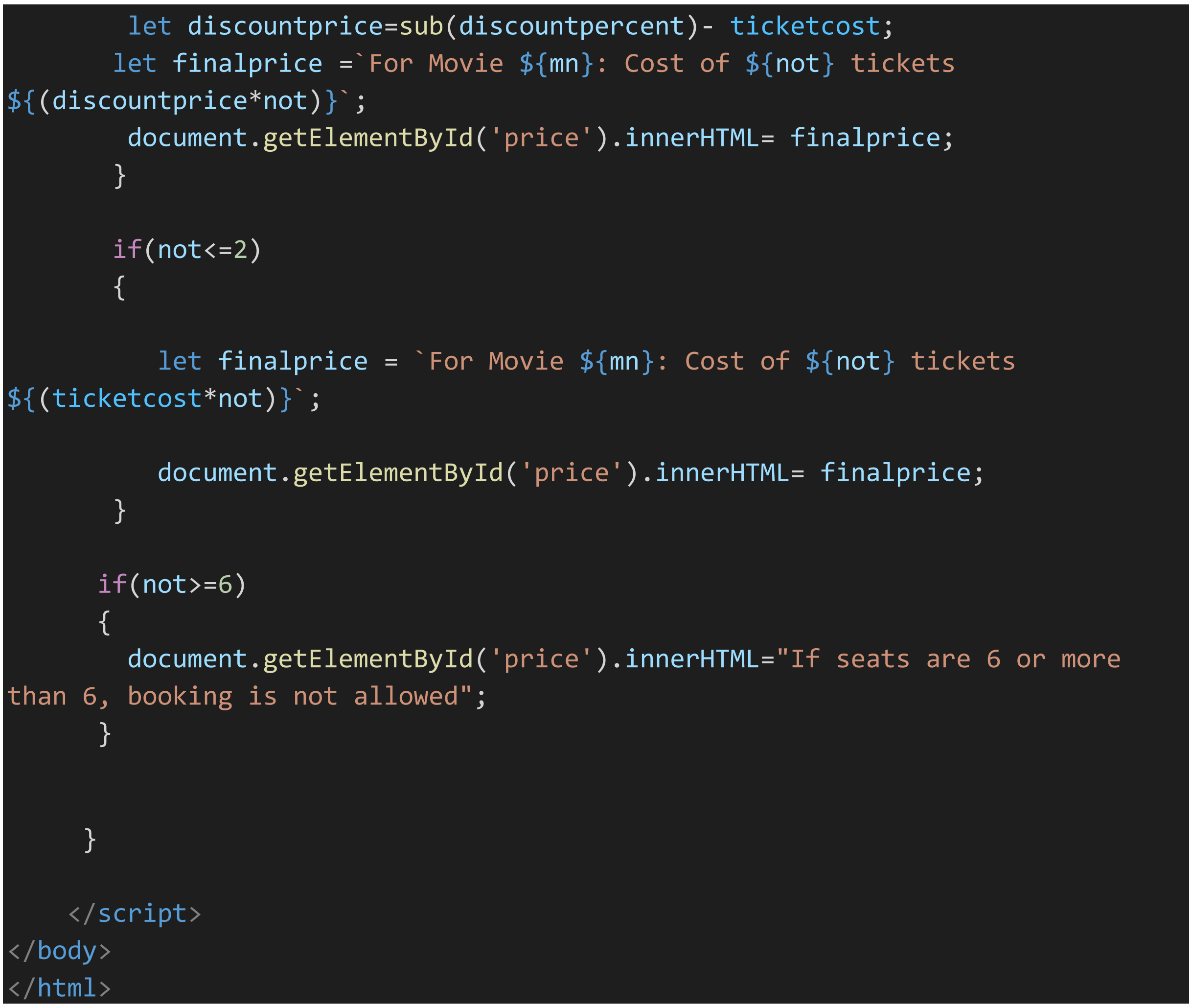
Write a JavaScript code to book movie tickets online and calculate the total price based on the 3 conditions: (a) If seats to be booked are not more than 2, the cost per ticket remains Rs. 150. (b) If seats are 6 or more, booking is not allowed.



```
<!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">
    <title>Book Movie Tickets...</title>
    <style>
      .divcontent
    {
  /*margin-left: 50px;
   margin-right: 50px;
   margin-top: 50px;*/
   position:fixed;
   left: 50%;
   top:20%;
   max-width: 500px;
   background-color: white;
   transform: translate(-50%,-50%);
   border-radius: 4px;
}
.column {
  float: left;
  width: 50%;
}

/* Clear floats after the columns */
.row::after {
  display: table;
  clear: both;
}
input[type=text], select {
  width: 100%;
  padding: 12px 20px;
  display: inline-block;
  border: 1px solid #ccc;
  border-radius: 2px;
  box-sizing: border-box;
}
input[type=submit] {
  background-color:darkorange;
  color: white;
```



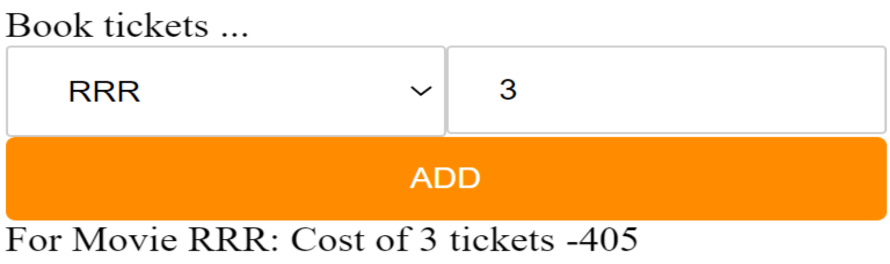
```
  border: none;
  height: 100%;
  padding: 12px 20px;
  border-radius: 4px;
  cursor: pointer;
  float: left;
  width:100%;
}
</style>
</head>
<body>
    <div class="divcontent">
        <div class="row">
           Book tickets ...
        </div>
        <div class="row">
            <div class="column">
                <select id="mvs" name="movies">
                    <option> Select Movie </option>
                    <option> RRR </option>
                    <option> Avatar-2</option>

                </select>
            </div>
            <div class="column">
                <input type="text" id="not" placeholder="Number Of Tickets"/>
            </div>
        </div>
        <div class="row" >
            <input type="submit"  value="ADD" onclick="calculate_price()" />
        </div>

        <div id="price"></div>
        <div id="totaltickets"></div>
    </div>
    <script>
     function calculate_price( )
     {

       const ticketcost =  150;
       let discountpercent=10;
       let not = document.getElementById('not').value;
       let mn = document.getElementById('mvs').value;

       if(not>2 && not<6)
       {
        let sub= (discountpercent)=>{ return ticketcost * discountpercent/100
};
```



```
        let discountprice=sub(discountpercent)- ticketcost;
       let finalprice =`For Movie ${mn}: Cost of ${not} tickets
${(discountprice*not)}`;
        document.getElementById('price').innerHTML= finalprice;
       }

       if(not<=2)
       {

          let finalprice = `For Movie ${mn}: Cost of ${not} tickets
${(ticketcost*not)}`;

          document.getElementById('price').innerHTML= finalprice;
       }

      if(not>=6)
      {
        document.getElementById('price').innerHTML="If seats are 6 or more
than 6, booking is not allowed";
      }


     }

    </script>
</body>
</html>
```

Output:

Check with 3 tickets:



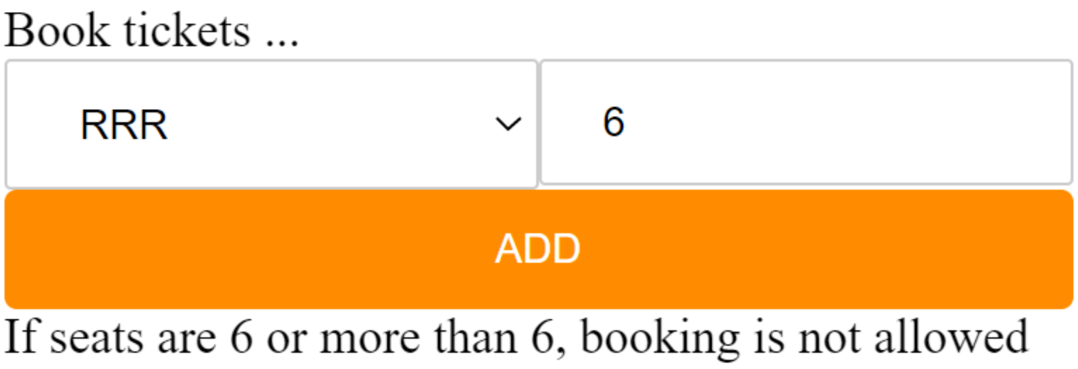
Book tickets ...

For Movie RRR: Cost of 3 tickets -405

According to the condition if user book more than 2 less than 6 10% discount on the tickets

So that we entered 3 tickets so that our discount price for each ticket 135 so that cost of 3 tickets -405

Check with 6 tickets

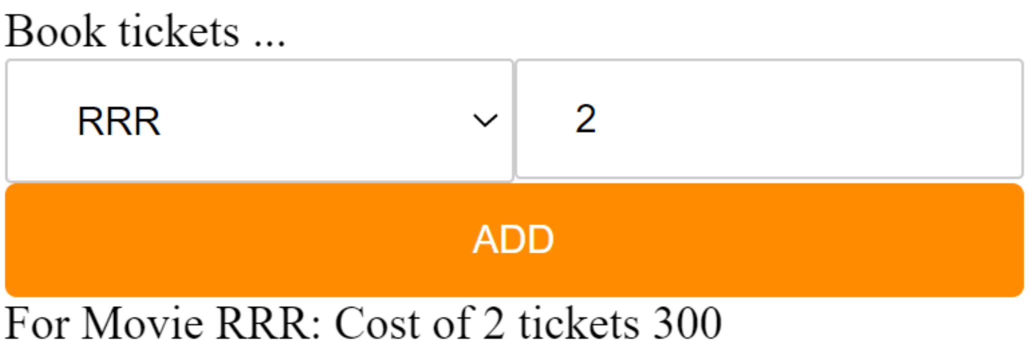

Book tickets ...

RRR

6

If seats are 6 or more than 6, booking is not allowed

Now check with 2 tickets . In this case discount not apply on ticket price. Each ticket price 150


Book tickets ...

RRR

2

For Movie RRR: Cost of 2 tickets 300

What is class and constructor in Javascript :

In JavaScript, classes are the special type of functions. We can define the class just like function declarations and function expressions.

The JavaScript class contains various class members within a body including methods or constructor. The class is executed in strict mode. So, the code containing the silent error or mistake throws an error.

Example of Class:

```
Class Person

{   show(){ console.log("  Method from class person  ") } // this is method in class   }
```

//let see how to create object for class in javascript let obj = new Person()

obj.show()

Constructor in Javascript:

The constructor method is a special method:

- It has to have the exact name "constructor"
- It is executed automatically when a new object is created
- It is used to initialize object properties

If you do not define a constructor method, JavaScript will add an empty constructor method.

Example of Constructor :

```
class Person
{

  constructor(P_name,P_age)
   {
     this.name =  P_name;
     this.age = P_age;
   }
   show()
   {
    console.log(this.name,this.age);
   }

  }


let  obj =new Person("abc",26);
obj.show();
```

4b) Create an Employee class extending from a base class Person. Hints: (i) Create a class Person with name and age as attributes. (ii) Add a constructor to initialize the values (iii) Create a class Employee extending Person with additional attributes role.

```
class Person{
    constructor(P_name,P_age)
    {
        this.P_name = P_name;
        this.P_age = P_age;
    }
}
class employee extends Person{
    constructor(P_name,P_age,E_salary,E_id){
        super(P_name,P_age);
        this.salary = E_salary;
        this.id= E_id;
    }
    Show()
    {

        console.log('PersonName:'
+  this.P_name,'PersonAge:'+  this.P_age,'EmployeeSalary:'+  this.salary,
'Employee_Id:' + this.id);
}

}
let obj= new employee("Raju",25,20000,4705);
obj.Show();
```

output:

```
PersonName:Raju PersonAge:25 EmployeeSalary:20000 Employee_Id:4705
```