APS COLLEGE OF ENGINEERING

WEB PROGRAMMING LABORATORY

(21CSL481)

For

IV SEMESTER B.E
COMPUTER SCIENCE & ENGINEERING

Compiled by

Prof. Rajashree.M.Byalal
Assistant Professor,
Dept of CS & E
APSCE, Bangalore-82

APS COLLEGE OF ENGINEERING
Anantha Gnana Gangothri , 26th km, NH-209,
Kanakapura Road , Bangalore – 560 082.

Program 1: Create a HTML code for a website that display's lists of computer components, input & output devices using ordered, unordered, definition and nested lists.

```html
<!DOCTYPE html>
<html>
<head>
    <title>Computer Components</title>
</head>
<body>
    <h1>Basic Computer Components</h1>

    <!-- Ordered List -->
    <h2>Main Components</h2>
    <ol>
        <li>Central Processing Unit (CPU)</li>
        <li>Memory (RAM)</li>
        <li>Storage Devices
            <ol>
                <li>Hard Disk Drive (HDD)</li>
                <li>Solid State Drive (SSD)</li>
            </ol>
        </li>
        <li>Motherboard</li>
    </ol>

    <!-- Unordered List -->
    <h2>Input Devices</h2>
    <ul>
        <li>Keyboard</li>
        <li>Mouse</li>
        <li>Touchpad</li>
```

```html
            <li>Webcam</li>
        </ul>


        <!-- Definition List -->
        <h2>Output Devices</h2>
        <dl>
            <dt>Monitor</dt>
            <dd>A visual display that shows the computer's output. </dd>


            <dt>Printer</dt>
            <dd>Produces hard copies of documents and images. </dd>


            <dt>Speakers</dt>
            <dd>Produces audio output from the computer. </dd>
        </dl>


        <!-- Nested Lists -->
        <h2>Expansion Cards</h2>
        <ul>
            <li>Graphics Card</li>
            <li>Sound Card</li>
            <li>Network Interface Card (NIC)
                <ul>
                    <li>Ethernet NIC</li>
                    <li>Wireless NIC</li>
                </ul>
            </li>
        </ul>
    </body>
</html>
```

OUTPUT:

Basic Computer Components

Main Components

1. Central Processing Unit (CPU)
2. Memory (RAM)
3. Storage Devices
    1. Hard Disk Drive (HDD)
    2. Solid State Drive (SSD)
4. Motherboard

Input Devices

- Keyboard
- Mouse
- Touchpad
- Webcam

Output Devices

Monitor
> A visual display that shows the computer's output.

Printer
> Produces hard copies of documents and images.

Speakers
> Produces audio output from the computer.

Expansion Cards

- Graphics Card
- Sound Card
- Network Interface Card (NIC)
    - Ethernet NIC
    - Wireless NIC

Program 2: Create a HTML code that collects the following student details: name, email, date of birth, gender, course, address, phone, and photo use the table tag to organize the form elements.

```
<!DOCTYPE html>

<html lang="en">

<head>

    <title>Student Registration</title>


</head>

<body>

    <h1>Student Registration</h1>
```

```html
<form action="#" method="POST">
    <table>
        <tr>
            <th>Field</th>
            <th>Details</th>
        </tr>
        <tr>
            <td>Name:</td>
            <td><input type="text" name="name" required></td>
        </tr>
        <tr>
            <td>Email:</td>
            <td><input type="email" name="email" required></td>
        </tr>
        <tr>
            <td>Date of Birth:</td>
            <td><input type="date" name="dob" required></td>
        </tr>
        <tr>
            <td>Gender:</td>
            <td>
 <input type="radio" name="gender" value="Male" required> Male
<input type="radio" name="gender" value="Female" required> Female
 <input type="radio" name="gender" value="Other" required> Other
            </td>
        </tr>
        <tr>
            <td>Course:</td>
            <td><input type="text" name="course" required></td>
        </tr>
        <tr>
            <td>Address:</td>
```

```
            <td><textarea name="address" required></textarea></td>
        </tr>
        <tr>
            <td>Phone:</td>
            <td><input type="tel" name="phone" required></td>
        </tr>
        <tr>
            <td>Photo:</td>
    <td><input type="file" name="photo" accept="image/*" required></td>
        </tr>
    </table>

        <input type="submit" value="Submit">
    </form>
</body>
</html>
```

OUTPUT:

Student Registration

Field	Details
Name:	
Email:	
Date of Birth:	dd / mm / yyyy
Gender:	○ Male ○ Female ○ Other
Course:	
Address:	
Phone:	
Photo:	Browse... No file selected.
	Submit

Program 3: Create an HTML code for a computer overview that includes a table to display Input/Output devices descriptions, images, as well as hyperlinks to external resources.

```html
<!DOCTYPE html>

<html>

<head>

    <title>Computer Overview</title>

</head>

<body>

    <h1>Computer Overview</h1>


    <table border="1">

        <tr>

            <th>Device</th>

            <th>Description</th>

            <th>Image</th>

            <th>Learn More</th>

        </tr>

        <tr>

            <td>Keyboard</td>

            <td>A keyboard is a standard input device for typing text
and issuing commands to the computer. </td>

    <td><img src="keyboard.jpg" alt="Keyboard" height="100px"></td>

     <td>

<a href="https://en.wikipedia.org/wiki/Computer_keyboard">Learn More

</a>

    </td>

        </tr>

        <tr>

            <td>Mouse</td>

            <td>A mouse is an input device that allows users to interact
with the computer by moving a pointer on the screen. </td>
```

```
                <td><img src="mouse.jpg" alt="Mouse" height="100px"></td>
 <td>

<a href="https://en.wikipedia.org/wiki/Computer_mouse">Learn More

</a>

</td>

        </tr>

        <tr>

            <td>Monitor</td>

<td>A monitor is an output device that displays visual information from
the computer. </td>

    <td><img src="monitor.jpg" alt="Monitor" height="100px"></td>

<td>

<a href="https://en.wikipedia.org/wiki/Computer_monitor">Learn More

</a>

</td>

        </tr>

        <tr>

            <td>Printer</td>

            <td>A printer is an output device used to produce hard
copies of documents and images. </td>

         <td><img src="printer.jpg" alt="Printer" height="100px"></td>

<td>

<a href="https://en.wikipedia.org/wiki/Printer_(computing)">LearnMore

</a>

</td>

        </tr>

    </table>

</body>

</html>
```

Computer Overview

Device	Description	Image	Learn More
Keyboard	A keyboard is a standard input device for typing text and issuing commands to the computer.		Learn More
Mouse	A mouse is an input device that allows users to interact with the computer by moving a pointer on the screen.		Learn More
Monitor	A monitor is an output device that displays visual information from the computer.		Learn More
Printer	A printer is an output device used to produce hard copies of documents and images.		Learn More

Program 4: Create a user registration form containing name, email and contact number using form tag. Use external style sheet to change headings and buttons.

Program4.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>Sample Code One</title>

<!--Using External CSS type -->

<link rel="stylesheet" href="code1.css">

</head>

<body>

<!-- Using "<form>" tag to get input from the USER -->

<form id="forms">
```

```html
<u><h1 id="heading">USER REGISTRATION FORM</h1></u>
<label>Enter Your First Name :</label>
<input type="text" placeholder="First Name" required><br><br>
<label>Enter Your Last Name :</label>
<input type="text" placeholder="Last Name" required><br><br>
<label>Enter Your Email :</label>
<input type="email" placeholder="MailID" required><br><br>
<label>Enter Your Contact Number :</label>
<input type="tel" placeholder="Phone Number" required><br><br><br>
<h6 id="heading3"> Note: Please fill all the fields </h6>
<center>
<button type="submit" value="Submit" id="btn">Submit</button>
</center>
</form></body>
</html>
```

Code1.css

```css
#heading{
font-family: 'Segoe UI', Tahoma, Geneva, Verdana, sans-serif;
color: red;
font-style: italic;
}
#btn:hover{
color: white;
background-color: orange;
}
#heading3:hover{
color: white;
background-color: lightblue;
}
```

OUTPUT:

USER REGISTRATION FORM

Enter Your First Name : [First Name]

Enter Your Last Name : [Last Name]

Enter Your Email : [MailID]

Enter Your Contact Number : [Phone Number]

Note: Please fill all the fields

[Submit]

Program 5: Create a webpage with inline CSS to display both ordered and unordered list with a background.

```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>Sample Code Three</title>

</head>

<body background="bg.jpg">

<!-- Example for "Ordered List" type -->

<ol>

<!-- We are using "Inline CSS" property type in this Webpage -->

<h3 style="color: green; font-size: 30px; font-family :Geneva, Tahoma, sans-serif;">

Trending Programming Languages

</h3>

<li style="color: white; font-size: 25px;" >JAVA</li>
```

```
<li style="color: white; font-size: 25px;">PYTHON</li>

<li style="color: white; font-size: 25px;">DOT NET</li>

<li style="color: white; font-size: 25px;">C SHARP</li>

</ol>

<!-- Example for "Un-Ordered List" type -->

<ul>

<h3 style="color: yellow; font-size: 30px; font-family: Verdana,
Geneva,

Tahoma;">Top Multi National Companies</h3>

<li style="color: white; font-size: 25px;font-style: italic;">

AMAZON

</li><br>

<li style="color: white; font-size: 25px;">ACCENTURE</li><br>

<li style="color: white; font-size: 25px;">APPLE</li><br>

<li style="color: white; font-size: 25px;">IBM</li><br>

<li style="color: white; font-size: 25px;">ORACLE</li>

</ul>

</body>

</html>
```

OUTPUT:

Program 6: Create a web page with internal CSS, making use of several selectors to style the text with various fonts and backgrounds, an image with transitions, hyperlinks with different colors.

```html
<!DOCTYPE html>
<html lang="en">
<head>
<meta charset="UTF-8">
<meta name="viewport" content="width=device-width, initial-scale=1.0">
<title>CSS Demo</title>
<style>
body {background-color:rgb(34, 64, 233);}
p {color: white;
text-align: left; font-family :Arial, Helvetica, sans-serif; padding-left: 10px;}
h1{text-align: center;
font-family: Georgia, 'Times New Roman', Times, serif; color: maroon;
}
.center {
text-align: left;
color: rgb(255, 255, 255);
font-style: italic;
}
img{ height: 230px; width: 250px; position:static; right: 30px; top: 40px; border-radius:
10px;float:left;margin-right: 10px; margin-bottom: 4px; }
#picture{transition-duration: 1s}
#picture:hover{transform: rotate(90deg);
}
a:hover {
color: green;
}
a:active {
```

```
color: red;

}

</style>

</head>

<body>

<h1>APS College of Engineering</h1>

<h2 class="center"> Brief Information</h2>

<img src="APSCE.jpeg" id="picture">

<p>

    A.P.S. College of Engineering is a private co-educational engineering and management college in Bangalore, India, affiliated with the Visvesvaraya Technological University founded in 1997 by A.P.S. Educational Trust. The college is located in Somanahalli, on Kanakapura road, Bangalore. <br>APS College of Engineering has a sprawling campus that covers more than 60 acres of land. The campus is situated in the suburbs, at a distance of 26 km (16 mi) from the city. It is well connected by a fleet of buses which pick up the students from all major residential areas of the city and Namma Metro is also available which is 7 km (4.3 mi) away from the college. <br>


    A Digital Library with an excellent infrastructure has been set up at the library in campus. Students can browse and search all your Databases, E-Journals, E-Books & References in digital library. <br>


    The campus has a Hostel for boys, which can house nearly 150 students hailing from different states all over the country. The campus has a hostel for girls which can accommodate around 50 students. </p> </div>

<p><b>

<a href="https://apsce.ac.in/" target="_blank">For more details

</a></b>

</p>

</body>

</html>
```

OUTPUT:

Program 7: Design a JavaScript code to accept student details and print the same details on the console.

```
const prompt=require('prompt-sync')();
// Get the input values
let name = prompt("Enter your name:");
let email = prompt("Enter your email:");
let phone = prompt("Enter your phone number:");
let dob = prompt("Enter your date of birth (YYYY-MM-DD):");
// Validate the input values
if (name === "" || email === "" || phone === "" || dob === "") {
console.log("Please fill in all the fields.");
return; }
// Display the input values
let message="Name:"+name+"\nEmail:"+email+"\nPhone:"+phone+"\nDate of Birth:"+dob;
console.log('-----STUDENT DETAILS-----')
console.log(message);
```

OUTPUT:

```
Enter your name:vinay
Enter your email:vinay@gmail.com
Enter your phone number:
Enter your date of birth (YYYY-MM-DD):1995-09-15
Please fill in all the fields.
```

```
Enter your name:venkatesh
Enter your email:venkaetsh@gmail.com
Enter your phone number:9887654798
Enter your date of birth (YYYY-MM-DD):1997-03-12
-----STUDENT DETAILS-----
Name: venkatesh
Email: venkaetsh@gmail.com
Phone: 9887654798
Date of Birth: 1997-03-12
```

Program 8: Design a simple calculator using primitive operations in JavaScript.

```javascript
const prompt=require('prompt-sync')();
// Define variables for the calculator
let num1 = prompt("Enter the first number");
let num2 = prompt("Enter the second number");
let operator = prompt("Enter the operator (+, -, *, /)");
// Convert string inputs to numbers
num1 = Number(num1);
num2 = Number(num2);
// Calculate the result based on the operator entered
let result;
switch(operator) {
case "+":
result = num1 + num2;
break;
case "-":
result = num1 - num2;
break;
case "*":
result = num1 * num2;
break;
```

```
case "/":

result = num1 / num2;

break;

default:

result = "Invalid operator";

}
//Output the result to the console
console.log(`The result is: ${result}`);
```

OUTPUT:

```
[Enter the first number10
[Enter the second number5
[Enter the operator (+, -, *, /)*
 The result is: 50

[Enter the first number10
[Enter the second number5
[Enter the operator (+, -, *, /)-
 The result is: 5

[Enter the first number12
[Enter the second number4
[Enter the operator (+, -, *, /)/
 The result is: 3

[Enter the first number23
[Enter the second number12
[Enter the operator (+, -, *, /)&
 The result is: Invalid operator

[Enter the first number10
[Enter the second number12
[Enter the operator (+, -, *, /)+
 The result is: 22
```

Program 9: Write a code to check the voting eligibility of a person and display the details of a person using various Element access notations in JavaScript.

```
const prompt = require('prompt-sync')();
//object creation to hold voter details
let voter =
```

```javascript
{
name: "",
age: 0,
};
// prompt the user to enter voter details
//object modification
voter.name = prompt("What is your name?");
voter.age = parseInt(prompt("How old are you?"));
Checkage(voter.age);
// function to check if the voter is eligible
function Checkage(age)
{
if (voter.age >= 18 )
{
isEligible = true;
console.log('Congrats',voter['name'],'you are',voter.age,'and you can
cast your vote')
}
else
{
throw new Error("Voter must be at least 18 years old."); //throws error
if age is less than 18 }
}
}
// Element Access
console.log("---Voter Details----:");
console.log("Name: " + voter.name); // Element Access using dot (.)
notation
console.log("Age: " + voter['age']); // Element Access using bracket []
notation
console.log("Eligible: " + isEligible);
console.log("---Object Details after modification---:");
//access and modify a specific element in the voter object
```

```javascript
voter.age = 12;

console.log("Updated Age: " + voter.age);

console.log("---Object Details before deleting---:");

console.log(voter)

delete voter.name

console.log("---Object Details after deleting---:");

console.log(voter); //deleting element in the voter object[Modification
of object]
```

OUTPUT:

```
What is your name?arjun
How old are you?25
Congrats arjun you are 25 and you can cast your vote
---Voter Details----:
Name: arjun
Age: 25
Eligible: true
---Object Details after modification---:
Updated Age: 12
---Object Details before deleting---:
{ name: 'arjun', age: 12 }
---Object Details after deleting---:
{ age: 12 }

What is your name?vinod
How old are you?16

throw new Error("Voter must be at least 18 years old."); //throws error if age is less than 18 }
^

Error: Voter must be at least 18 years old.
    at Checkag            /Desktop/9.js:23:7)
    at Object.<anonymous> (/Users/            9.js:12:1)
    at Module._compile (node:internal/modules/cjs/loader:1267:14)
    at Module._extensions..js (node:internal/modules/cjs/loader:1321:10)
    at Module.load (node:internal/modules/cjs/loader:1125:32)
    at Module._load (node:internal/modules/cjs/loader:965:12)
    at Function.executeUserEntryPoint [as runMain] (node:internal/modules/run_main:83:12)
    at node:internal/main/run_main_module:23:47
```

Program 10: Implement linear search in JavaScript.

```javascript
const prompt=require('prompt-sync')();

// Define a function to perform a linear search on an array

function linearSearch(arr, val)

{

for (let i = 0; i < arr.length; i++)

{

if (arr[i] === val)

{
```
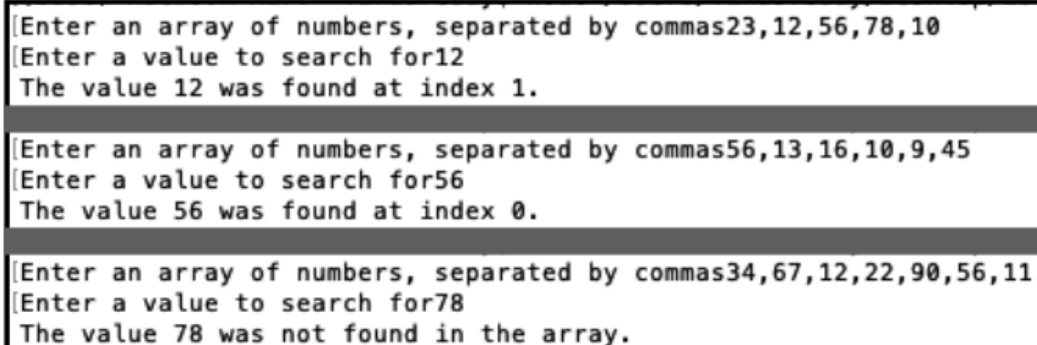
```
return i;

}

}

return -1;

}

// Prompt the user for an array of numbers

const arr = prompt("Enter an array of numbers, separated by
commas").split(",").map(Number);

// Prompt the user for a value to search for

const val = Number(prompt("Enter a value to search for"));

// Call the linear search function and output the result

const result = linearSearch(arr, val);

if (result === -1)

{

console.log(`The value ${val} was not found in the array.`);

}

else

{

console.log(`The value ${val} was found at index ${result}.`);

}
```

OUTPUT:

```
[Enter an array of numbers, separated by commas23,12,56,78,10
[Enter a value to search for12
 The value 12 was found at index 1.

[Enter an array of numbers, separated by commas56,13,16,10,9,45
[Enter a value to search for56
 The value 56 was found at index 0.

[Enter an array of numbers, separated by commas34,67,12,22,90,56,11
[Enter a value to search for78
 The value 78 was not found in the array.
```