CA-C20L:INTERNET TECHNOLOGIES LAB

1. Demonstrate E-Mail working (Sending Receiving, forward)

Working of Email

The email refers to the electronic mail means of communication of sending and receiving messages over the Internet. Email is the most common form of communication nowadays. An email has significantly evolved over the past couple of years. There are now stronger sync and messaging features along with stronger security and spam-related features.

Components of an Email:

1. **Sender:** The sender creates an email in which he records the information that needs to be transferred to the receiver.
2. **Receiver:** The receiver gets the information sent by the sender via email.
3. **Email address:** An email address is just like a house address where the communication arrives for the sender and receiver and they communicate with each other.
4. **Mailer:** The mailer program contains allows the ability to read, write, manage and delete the emails like Gmail, Outlook, etc.
5. **Mail Server:** The mail server is responsible for sending, receiving, managing, and recording all the data proceeded by their respective mail programs and then processing them to their respective users.
6. **SMTP:** SMTP stands for Simple mail transfer protocol. SMTP basically uses the internet network connection to send and receive email messages over the Internet.

Protocols of Email:

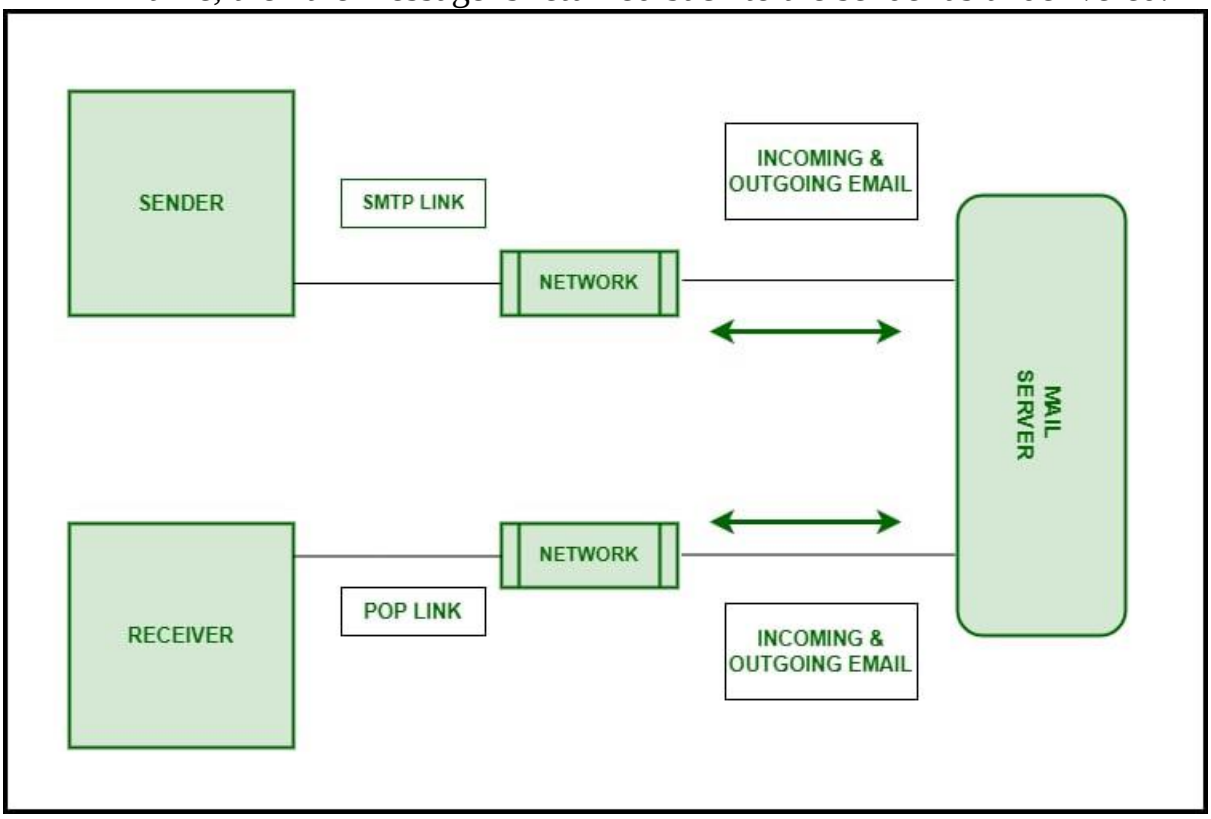
Emails basically use two types of standard protocols for communication over the Internet. They are:-

1. **POP:** POP stands for post office protocol for email. Similar to a post office, our approach is just to drop the email over the service mail provider and then leave it for services to handle the transfer of messages.
   We can be even disconnected from the Internet after sending the email via POP.
   POP allows using concentrate all the emails from different email addresses to accumulate on a single mail program.

2. **IMAP:**
   - IMAP stands for Internet message access protocol.
   - IMAP has some special advantages over POP like it supports bidirectional communication over email and there is no need to store conversations on servers as they are already well-maintained in a database.
   - It has some advanced features like it tells the sender that the receiver has read the email sent by him.

Working of Email:

1. When the sender sends the email using the mail program, then it gets redirected to the simple mail transfer protocol which checks whether the receiver's email address is of another domain name or it belongs to the same domain name as that of the sender (Gmail, Outlook, etc.). Then the email gets stored on the server for later purposes transfer using POP or IMAP protocols.
2. If the receiver has another domain name address then, the SMTP protocol communicates with the DNS (domain name server) of the other address that the receiver uses. Then the SMTP of the sender communicates with the SMTP of the receiver which then carries out the communication and the email gets delivered in this way to the SMTP of the receiver.
3. If due to certain network traffic issues, both the SMTP of the sender and the receiver are not able to communicate with each other, the email to be transferred is put in a queue of the SMTP of the receiver and then it finally gets receiver after the issue resolves.
4. And if due to very bad circumstances, the message remains in a queue for a long time, then the message is returned back to the sender as undelivered.



From Sender to Receiver:

- The sender first needs the email address of the receiver to send the information to be communicated via email.
- When the sender writes all the information in the email along with the email address of the receiver and clicks on the send button, the mail program transfers the message to the MTA (Mail Transfer Agent) which is transferred from the local computer of the sender to the mail server via the SMTP protocol.

- Then the webmail server looks out for the similar mail transfer agent of the receiver and locates it whether it is using the same DNS (domain name server) or a different service.
- The DNS looks for the mail exchanger service of the receiver. Now, the SMTP protocol transfers the message between both mail servers through their mailing agents.
- Then the receiver's MTA finally transfers this message to the receiver's local computer.

2. How to create, organize meeting in Zoom/ GoogleMeet

1. Sign in to the Zoom desktop client.
2. On the **Home** tab, click **Schedule** .This will open the scheduler window.
3. Select your meeting settings. Note that some of these options might not be available if they were disabled and locked to the off position at the account or group level.

    - **Topic**: Enter a topic or name for your meeting.
    - **Date & Time**:
        - **Start**: Select a date and time for your meeting, but remember you can start your meeting at any time before the scheduled time. You can also manually enter any time. For example, you can enter **15** in the minutes field.
        - **Time Zone**: By default, Zoom will use your computer's time zone. Click the drop-down menu to select a different time zone.
        - **Recurring meeting**: Choose if you would like a recurring meeting (the meeting ID will remain the same for each session).
    - **Meeting ID**
        - **Generate Automatically**: Generate a random unique meeting ID.
        - **Personal Meeting ID***: Use your Personal Meeting ID.
    - **Security**
        - **Passcode**: Enter a meeting passcode. Joining participants will be required to input this before joining your scheduled meeting.
          Note: The meeting passcode must meet complexity requirements set by your admin.
        - **Waiting Room**: Enable Waiting Room for the meeting.
        - **Only authenticated users can join**: Restrict access to the meeting so that only signed-in users can join.
          Note: If you select **Sign in to Zoom with specified domain**, you can't add any domains that are included on the domain block list.

- **Encryption**: Choose between the standard **Enhanced encryption** (encryption keys stored in the cloud) and **End-to-end encryption** (encryption keys stored on your local device) for your meeting.
- **Video**
    - **Host**: Choose if you would like the host's video on or off when joining the meeting. Even if you choose off, the host will have the option to start their video.
    - **Participants**: Choose if you would like the participants' videos on or off when joining the meeting. Even if you choose off, the participants will have the option to start their video.
- **Audio***: Allow users to call in using **Telephone** only, **Computer Audio** only, **Both**, or **3rd Party Audio** (if enabled for your account).
    - **Dial in From**: If **Telephone** or **Both** is enabled for this meeting, click **Edit** to select the dial-in countries to include in the invitation. By default, this includes your **Global Dial-In Countries** listed in your meeting settings.
- **Calendar**: Select a calendar 0service to add the meeting and send out invites to participants.
    - **Outlook**: Open the Outlook desktop app and create an event for the meeting.
      Note: You will see **Outlook** when using the Windows client.
    - **iCal**: Open iCal and create an event for the meeting.
      Note: You will see **iCal** when using a macOS.
    - **Google Calendar**: Open Google Calendar in your default browser and create an event for the meeting.
    - **Other Calendars**: Open a new window, where the meeting text can be copied pasted into the user’s preferred communication method. You can also down an ICS file which can be opened in most email applications.
- **Advanced Options**: Click the arrow to view additional meeting options.
    - **Allow participants to join before start time**: Allow participants to join the meeting without you or before you join. If enabled, you can also choose how far in advance of the scheduled start time you wish them to be able to join: **5 minutes**, **10 minutes**, **15 minutes**, or **Anytime**.
      Note: The meeting will end after 40-minutes for Basic (free) users.
    - **Mute participants on entry**: If join before host is not enabled, this will mute participants as they join the meeting. Participants can unmute themselves after joining the meeting.
      Note: To mute all participants currently in a meeting, see the options to manage participants.

- **Request permission to unmute participants**: Participants will be prompted to provide the host with consent to be unmuted at will by the host. If declined, the host will still have the option to **Ask to unmute**.
- **Automatically record meeting**: Select if you want to record **Locally** (to your computer) or **In the cloud**.
- **Enable focus mode when meeting starts**: Automatically start the meeting with focus mode enabled, in order to provide fewer distractions to all meeting participants. This feature requires client version 5.9.0 or higher.
- **Enable additional data center regions for this meeting***
- **Approve or deny entry to users from certain regions and countries**: Host can either allow only participants from specific countries/regions to join, or block all participants from specific countries/regions.
- **Schedule for***: If you have scheduling privilege for another user, you will be able to choose who you want to schedule for from the drop-down menu.
  Note: When you assign scheduling privileges to other users in the Zoom web portal, you can choose if these users can manage your meetings that are marked as private in Outlook or Google Calendar. If the users cannot manage private events, they cannot see the invite link, meeting topic, or attendee list.
- **Show in Public Event List**: Add the meeting to a public calendar associated with your vanity URL.
- **Alternative hosts**: Enter the email address of another Licensed Zoom user on your account to allow them to start the meeting in your absence. If enabled, you can also select the check box to **Allow alternative hosts to add or edit polls**. This feature requires Zoom client version 5.8.0 or higher.

- **Interpretation** (only supported in Windows and macOS clients):
  Enable language interpretation (audio) and sign language interpretation (video) for the meeting. You also have the option to enter the email for the interpreter and their language or sign language they are interpreting, or you can assign it during the meeting.

4. Click **Save** to finish, and open the selected calendar service to add the meeting.
   Note:
   - If you are scheduling a recurring meeting, you will need to set the recurrence in your calendar service.
   - Choosing **Other Calendars** will allow you to copy and paste the scheduled meeting information such as date, time, and meeting URL.

Google Meet:

- Start or schedule a Google Meet video meeting
- You can set up or start a new Google meet video meeting from:

  - Meet
  - Gmail
  - Google Calendar
  - Google Chat (Mobile only)
  - Another scheduling system

Start a video meeting from Meet

- Go to Google Meet.
- Click New Meeting.
- Select an option:
- Create a meeting for later:
- To share the meeting details for a future meeting, copy the meeting link and share with participants.
- To directly start the meeting with this link, paste the link into a browser; or enter the link into the “Enter a code or link” field and then click Join.

Start an instant meeting: Create a new meeting and join the meeting directly.

- Schedule in Google Calendar: To schedule a meeting, you’re directed to Google Calendar.
- Start a video meeting from Gmail
- To start a video meeting from Gmail, you must turn on Meet in Gmail.

- Open Gmail.
- In the Meet section, click New meeting.
- To send the meeting invite via link or email, click Send invite.
- To copy the meeting invite details, click Copy meeting invite.
- To send an email invite, click Share via email.
- When you’re ready to join the meeting, click Join now.
- Before you join your first meeting, make sure to allow permissions for your Microphone and Camera. Once you grant permission:
- To turn your microphone on or off, click Microphone Microphone.
- To turn your camera on or off, click Camera Video call.
- To join the call, click Join now.

- To end the call, click Leave call Call end icon.
- Start a video meeting directly from Gmail or Chat
- Start a video meeting directly from Gmail or Chat.

Schedule a video meeting from Google Calendar

- When you create an event on Google Calendar, you can add a video meeting link.
- Google Workspace users: You can also add a dial-in number to the Calendar event.
- Google Workspace Essentials users: You can't schedule a meeting in Google Calendar.
- In Calendar, create an event.
- Click Add guests.
- Enter the names or email of the people you want to invite.
- Click Save.
- To notify guests, click Send.
- Schedule a video meeting in another scheduling system
- Start a video meeting from Gmail or Meet.
- Copy the meeting details to an event created in your scheduling system.

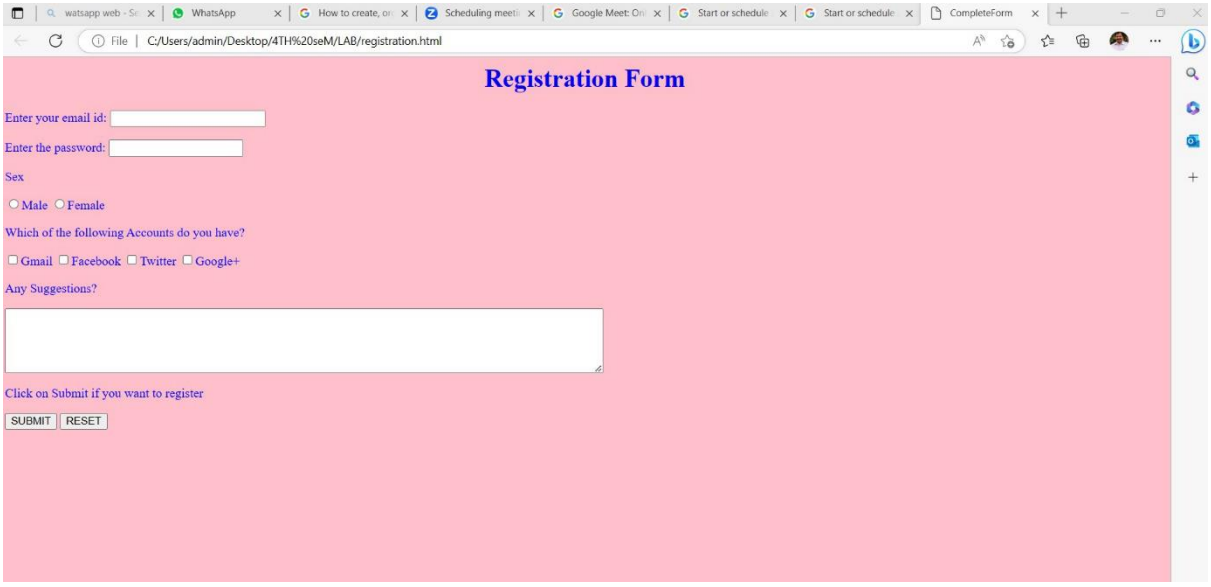
3. **Create a form by using various attributes of the input tags (text box, multiline textbox, option button, check box)**

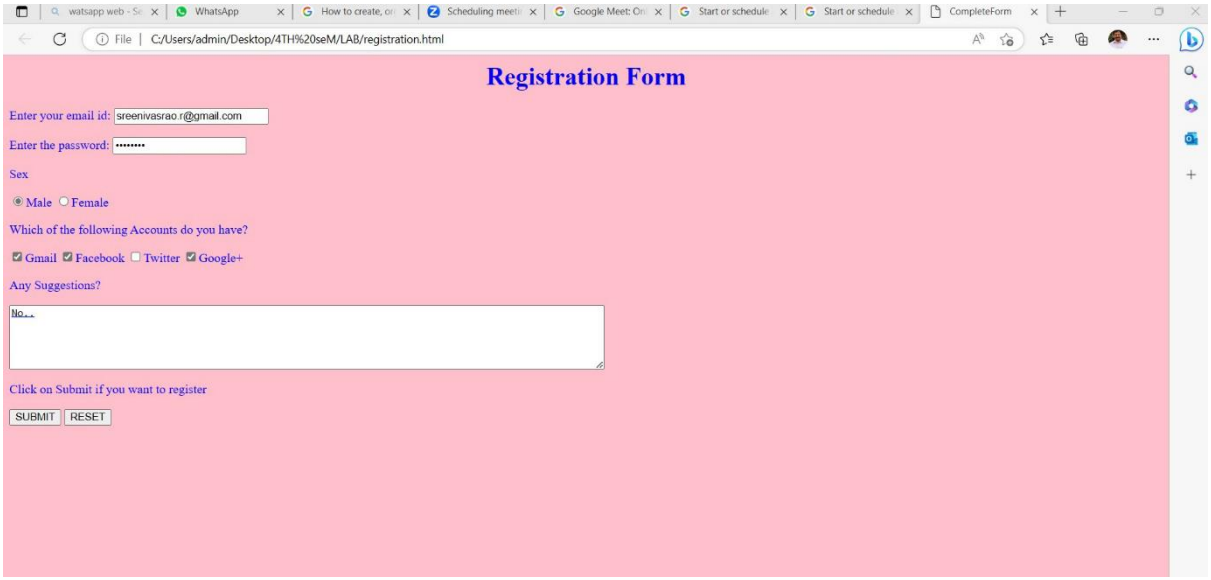
Program:

```
<html>
<head>
<title> Complete Form</title>
</head>
<body bgcolor="pink" text="blue">
<h1><center>Registration Form</center></h1>
<form action=" ">
<p>
<label>Enter your email id:
<input type = "text" name = "myname" size = "24" maxlength = "25" />
</label>
</p>
<p>
<label>Enter the password:
<input type = "password" name = "mypass" size = "20" maxlength = "20" />
</label>
</p>
<p>Sex</p>
<p>
<label><input type="radio" name="act" value="one"/>Male</label>
<label><input type="radio" name="act" value="two"/>Female</label>
</p>
<p>Which of the following Accounts do you have?</p>
```

```
<p>
<label><input type="checkbox" name="act" value="one"/>Gmail</label>
<label><input type="checkbox" name="act" value="two"/>Facebook</label>
<label><input type="checkbox" name="act" value="three"/>Twitter</label>
<label><input type="checkbox" name="act" value="four"/>Google+</label>
</p>
<p> Any Suggestions?</p>
<p>
<textarea name="feedback" rows="5" cols="100">
</textarea>
</p>
<p>Click on Submit if you want to register</p>
<p>
<input type="SUBMIT" value="SUBMIT"/>
<input type="RESET" value="RESET"/>
</p>
</form>
</body>
</html>
```

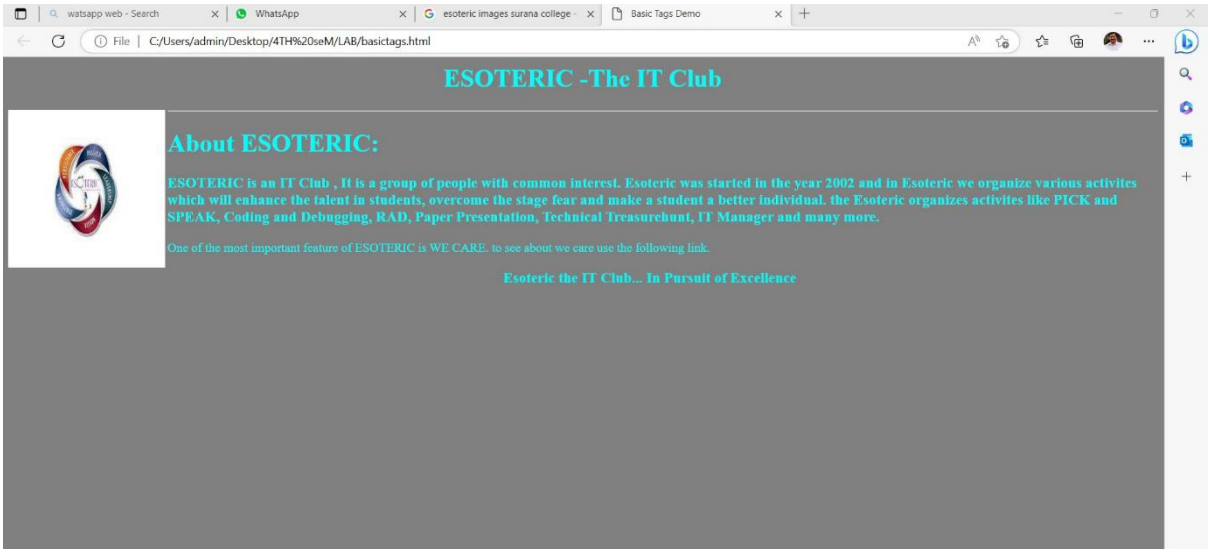
Output:




CompleteForm
File | C:/Users/admin/Desktop/4TH%20seM/LAB/registration.html
Registration Form
Enter your email id: sreenivasrao.r@gmail.com
Enter the password: ••••••••
Sex
Male Female
Which of the following Accounts do you have?
Gmail Facebook Twitter Google+
Any Suggestions?
No..
Click on Submit if you want to register
SUBMIT RESET

4. Create a simple HTML page by using some of the basic tags (hyperlink, marquee, image)

```
<html>
<head> <title> Basic Tags Demo</title></head>
<body bgcolor="gray" text="cyan">
<h1><center> ESOTERIC -The IT Club</center></h1>
<img src="es1.jpg" align = "left" height="200" width="200" >
<hr>
<h1> About ESOTERIC:</h1>
<p>
<h3>ESOTERIC is an IT Club , It is a group of people with common interest. Esoteric was
    started in the year 2002 and in Esoteric we organize various activites which will enhance
    the talent in students, overcome the stage fear and make a student a better individual.
    the Esoteric organizes activites like PICK and SPEAK, Coding and Debugging, RAD,
Paper Presentation, Technical Treasurehunt, IT Manager and many more.
</h3>
</p>
<p> One of the most important feature of ESOTERIC is WE CARE. to see about we care
use the following link.
</p>
<h3><marquee > Esoteric the IT Club... In Pursuit of Excellence </h3></marquee>
</body>
</html>
```



5. Create a web page with multiple types of style sheet used in a single page

```
<html>
<head>
<link rel="stylesheet" type="text/css" href="myex.css">
<style>
body
{
   background-color: linen;
}
p
{
color:red;
text-align:center;
}
</style>
<body>
<h1 style="color:blue;text-align:center;">This is inline CSS-Sree</h1>
<b><p> This is Internal Style Sheet- Sreeni</p></b>
<h2>The External style sheet is applied on this heading-Sreenivas</h1>
</body>
</html>
```

CSS External file: myex.css

```
h2
{
   color: navy;
   margin-left: 20px;
}
```

Output:

6. Write a CGI sample program to send output back to the user

Step1: Install strawberry perl to the system

Step 2: create the code and save the program with .pl exntension

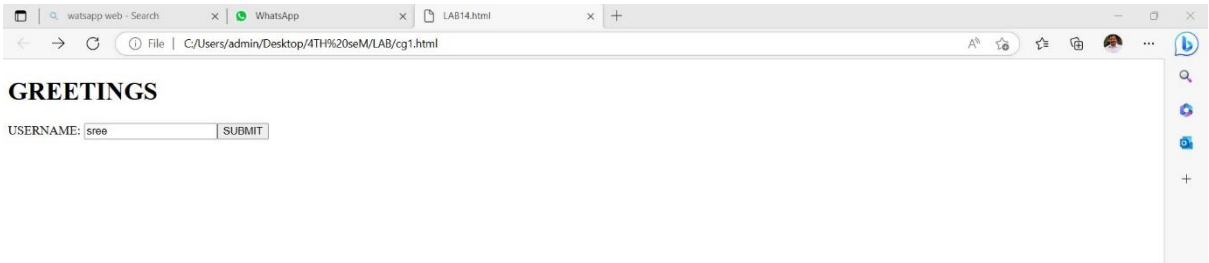
Step 3: goto command prompt of perl and execute the perl program successfully.

Step4. Install Apache or Xamp web server to the system.

Stept 5 : run the program in webserver local host

CGI Code :

```
#!"C:\Strawberry\perl\bin\perl.exe"
print "Content-type:text/html\n\n";
use CGI':standard';
print "<html><body>";
$p=param("p");
@greetings=("Good morning","Welcome","How are you doing?","Hello!");
$i=int rand scalar @greetings;
print "Hi $p, $greetings[$i]";
```



7. Create Time-Table using table tag

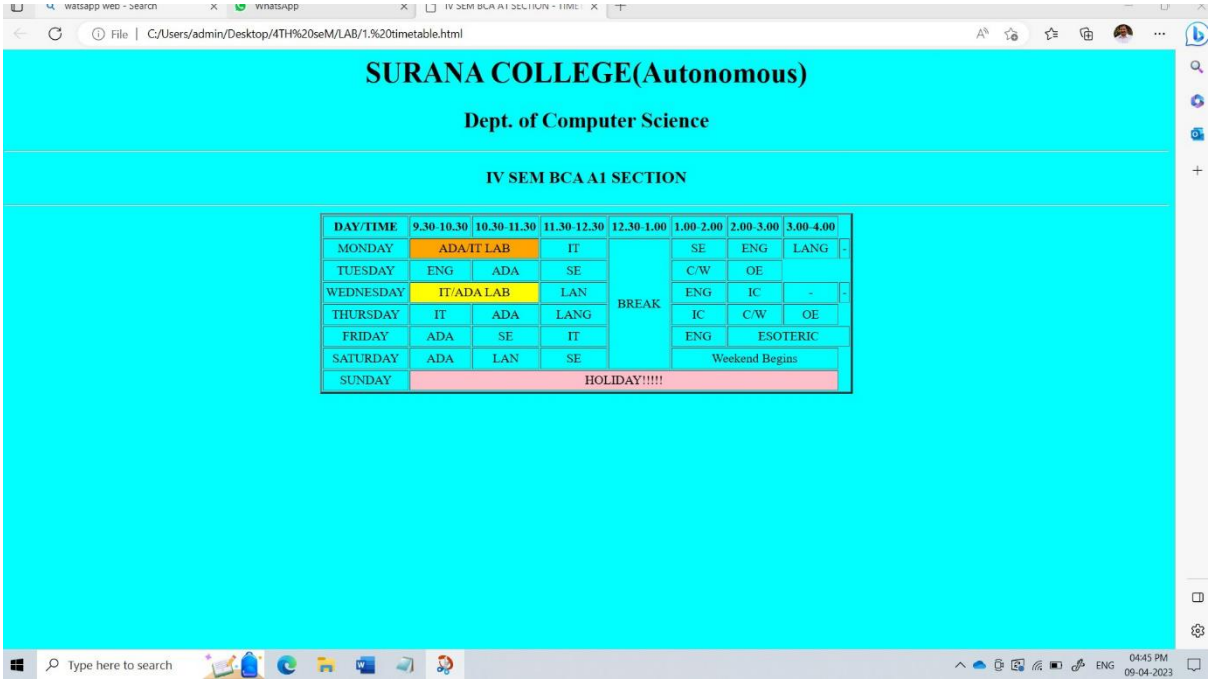
Program:

```
<html>
<head>
<title>IV SEM BCA A1 SECTION - TIMETABLE</title>
</head>
<body bgcolor="cyan">
<font face="times new roman" size="4">
<h1 align="center">SURANA COLLEGE(Autonomous)</h1>
<h2 align="center">Dept. of Computer Science</h2>
<hr/>
<h3 align="center">IV SEM BCA A1 SECTION</h3>
<hr/>
<table align="center" border="3" cellpadding="3">
<tr>
<th>DAY/TIME</th>
<th>9.30-10.30</th>
<th>10.30-11.30</th>
<th>11.30-12.30</th>
<th>12.30-1.00</th>
<th>1.00-2.00</th>
<th>2.00-3.00</th>
<th>3.00-4.00</th>
</tr>
```

```
<tr align="center">
<td>MONDAY</td>
<td colspan="2" bgcolor="orange">ADA/IT LAB</td>
<td>IT</td>
<td rowspan="6" align="center" valign="center">BREAK</td>
<td>SE</td>
<td>ENG</td>
<td>LANG</td>
<td>-</td>
</tr>
<tr align="center">
<td>TUESDAY</td>
<td>ENG</td>
<td>ADA</td>
<td>SE</td>
<td>C/W</td>
<td>OE</td>
</tr>
<tr align="center">
<td>WEDNESDAY</td>
<td colspan="2" bgcolor="yellow">IT/ADA LAB</td>
<td>LAN</td>
<td>ENG</td>
<td>IC</td>
<td>-</td>
<td>-</td>
</tr>
<tr align="center">
<td>THURSDAY</td>
<td>IT</td>
```

```
<td>ADA</td>
<td>LANG</td>
<td>IC</td>
<td>C/W</td>
<td>OE</td>
</tr>
<tr align="center">
<td>FRIDAY</td>
<td>ADA</td>
<td>SE</td>
<td>IT</td>
<td>ENG</td>
<td colspan="3">ESOTERIC</td>
</tr>
<tr align="center">
<td>SATURDAY</td>
<td >ADA</td>
<td >LAN</td>
<td >SE</td>
<td colspan="3">Weekend Begins</td>
</tr>
<tr align="center">
<td>SUNDAY</td>
<td colspan="7" bgcolor="pink">HOLIDAY!!!!!</td>
</tr>
</font>
</table>
</body>
</html>
```

Output:

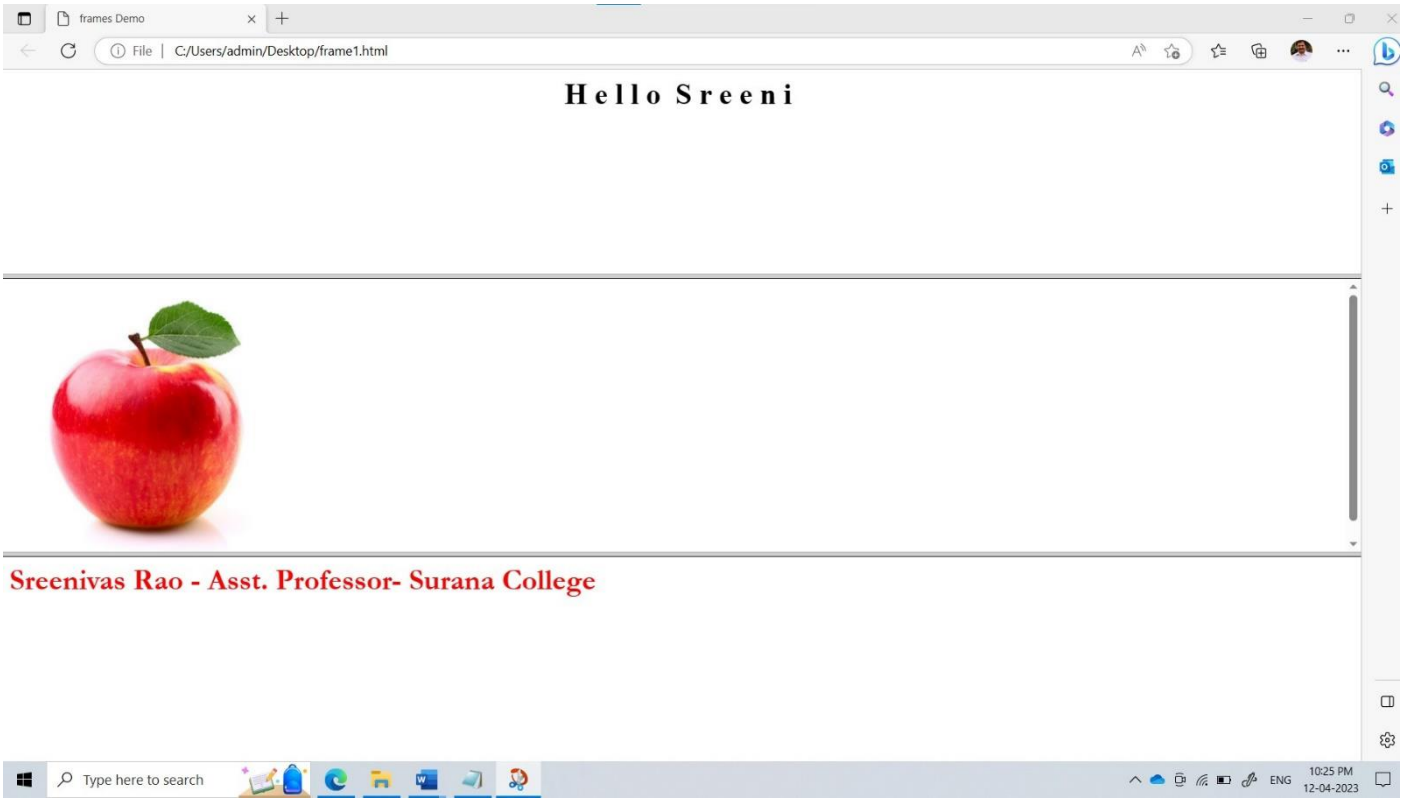


8. Creation of Frames in browser window using HTML

Program:

```
<html>
<head> <title>frames Demo</title>
</head>
<frameset rows="30%,40%,30%">
<frame src="a1.html">
<frame src="a2.html">
<frame src="a3.html">
</frameset>
</html>
```

Output:



Code for a1.html:

```
<html>
<head><title> hello program</title></head>
<body>
<h1><center>H e l l o 
S r e e n i </center></h1>
</body>
</html>
```

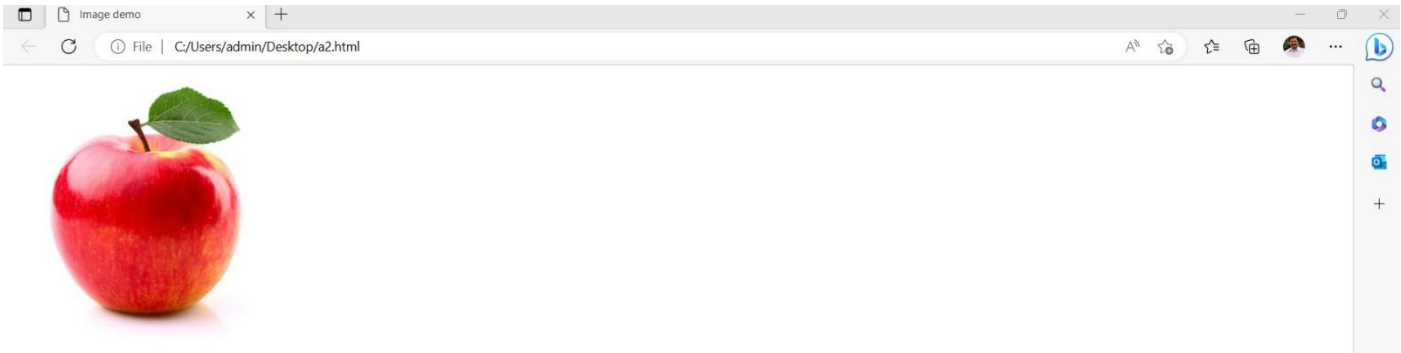
Output:

Code for a2.html:

```
<html>
<head><title>Image demo</title></head>
<body>
```

```
<img src="a1.jpg" height="300" width="300" >
</body>
</html>
```

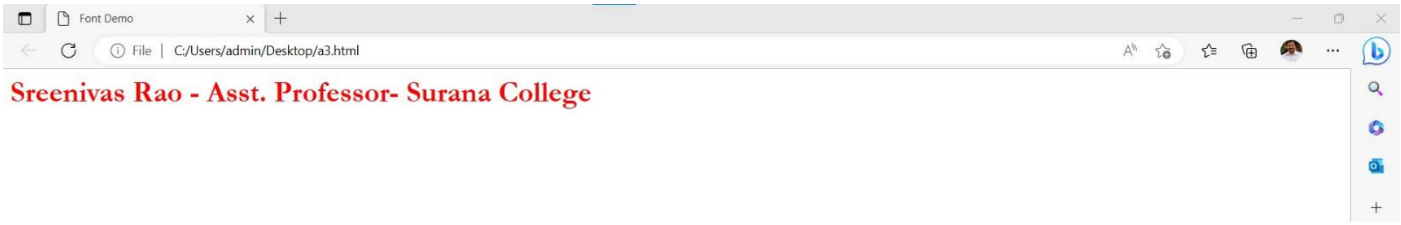
Output:



Code for a3.html:

```
<html>
<head>
<title>Font Demo</title>
</head>
<body>
<h1>
<font face="Garamond"  color="Red">
Sreenivas Rao - Asst. Professor- Surana College
</font>
</h1>
</body>
</html>
```

Output:



9. Write a java script program to create dialogue boxes using alert, confirm and prompt

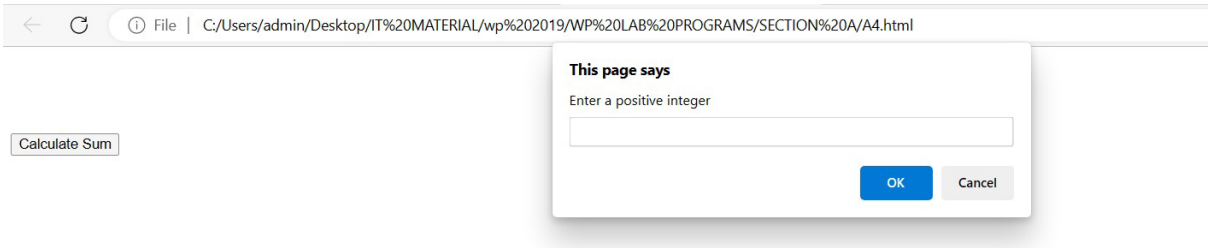
```
<?xml version="1.0"?>
<!doctype html Public "-//w3c//dtd xhtml 1.0 transitional//en"
"http://www.w3.org/tr/xhtml1/dtd/xhtml1-transitional.dtd">
<html xmlns="http://www.w3.org/1999/xhtml">
<head>
<title> SUM OF N NUMBERS</title>
<script type="text/javascript">
function sum()
{
	var n,s,response;
	n=prompt("Enter a positive integer");
	n=parseInt(n);
	s=0;
	for(var i=1;i<=n;i++)
	s=s+i;
	alert("Sum of numbers upto " + n + " is : "+s);

	response=confirm("happy with the output??");
	if(resposnse==true)
	{
		alert("happy");
		return true;
	}
	else
	{
		alert("not happy");
		return false;
```

```
        }
}
</script>
</head>
<body>
<h1 align="center">SUM OF N NUMBERS</h1>
<form>
<input type="button" value="Calculate Sum" onclick="sum();" />
</form>
</body>
</html>
```

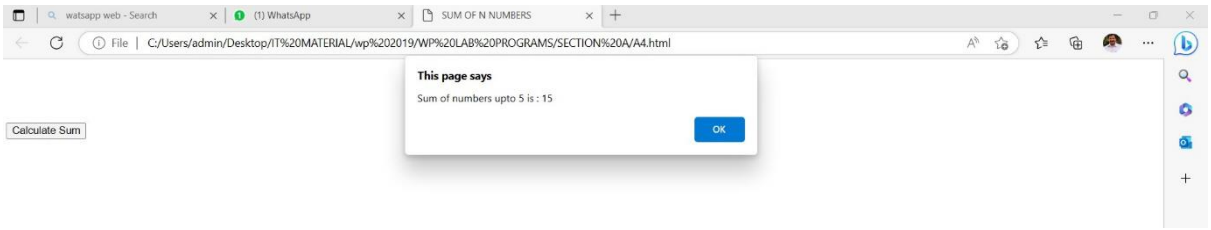
methods 10. Write a java script program on Form Validations

output:

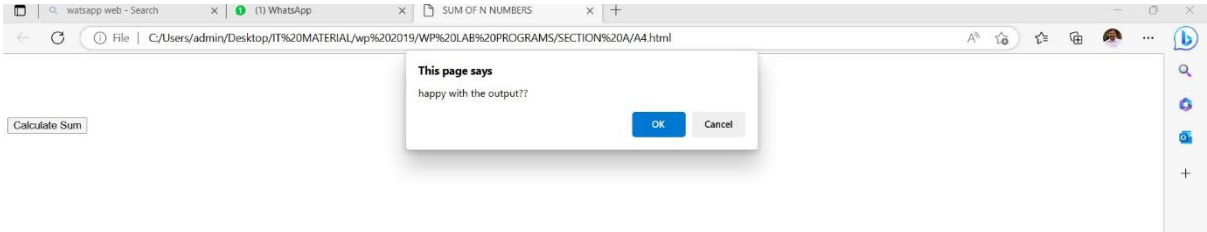
prompt box:



Alert box:



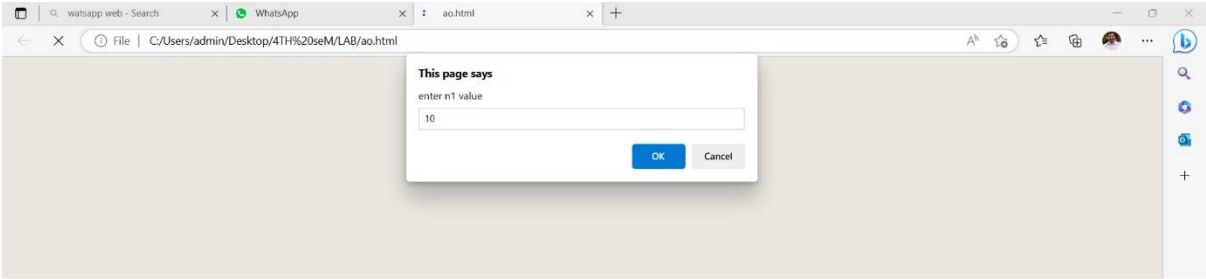
Confirm box:

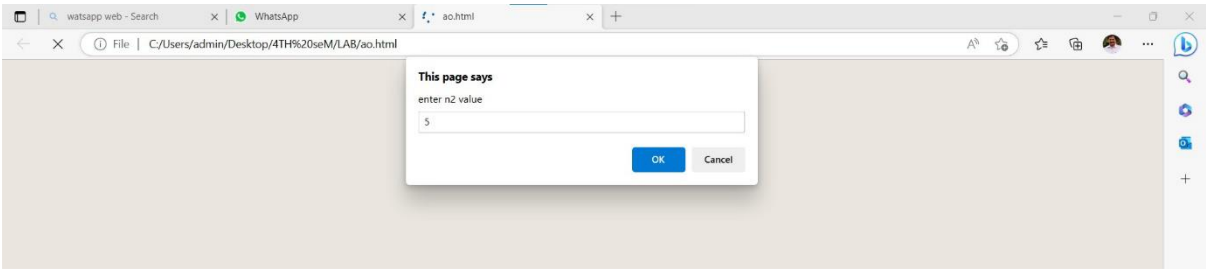


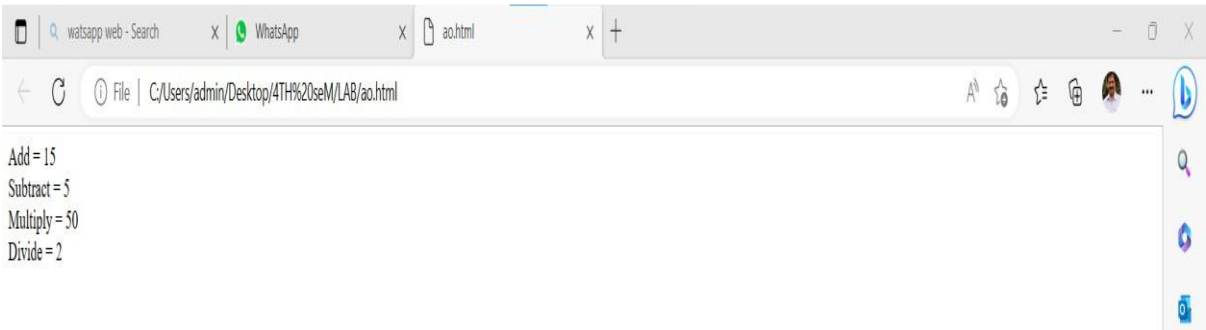
11. Write a java script program to perform four arithmetic operations: Addition, Subtraction, Multiplication and Division on two numbers

```
<html>
<body>
<script>
  var n1, n2, res;
        n1=prompt("enter n1 value");
        n1=parseInt(n1);
        n2=prompt("enter n2 value");
        n2=parseInt(n2);
  res = n1+n2;
  document.write("Add = " + res + "<br/>");
  res = n1-n2;
  document.write("Subtract = " + res + "<br/>");
  res = n1*n2;
  document.write("Multiply = " + res + "<br/>");
  res = n1/n2;
  document.write("Divide = " + res + "<br/>");
</script>
</body>
</html>
```

Output:







12. Create a web site of our College

```
<html>
<head><title> Web Page about Surana Colleg</title></head>
<body bgcolor="00ffff" text "blue">
<h1> <center>SURANA COLLEGE</center></h1>
<h2> <center>(AUTONOMOUS)</center></h2>
        <center>Southe End Road,
                BENGALURU-04.
        </center>
<img src="college.jpg" width="250" height="250" align="right">
<h1>
```

COURSES OFFERED

</h1>

<ol>

<li> PUC COURSES

<ol>* ARTS

<li> HEPPY </li>

</ol>

<ol>COMMERCE

<li> BASM </li>

<li> HEBA </li>

<li>EBAC </li>

</ol>

<ol>* SCIENCE

<li> PCMC</li>

<li> PCMB </li>

<li> PCME </li>

</ol>

<ol>* UG COURSES

<ol>* BA

<li> HEP </li>

<li> HTJ </li>

<li> JOEP </li>

</ol>

</ol>

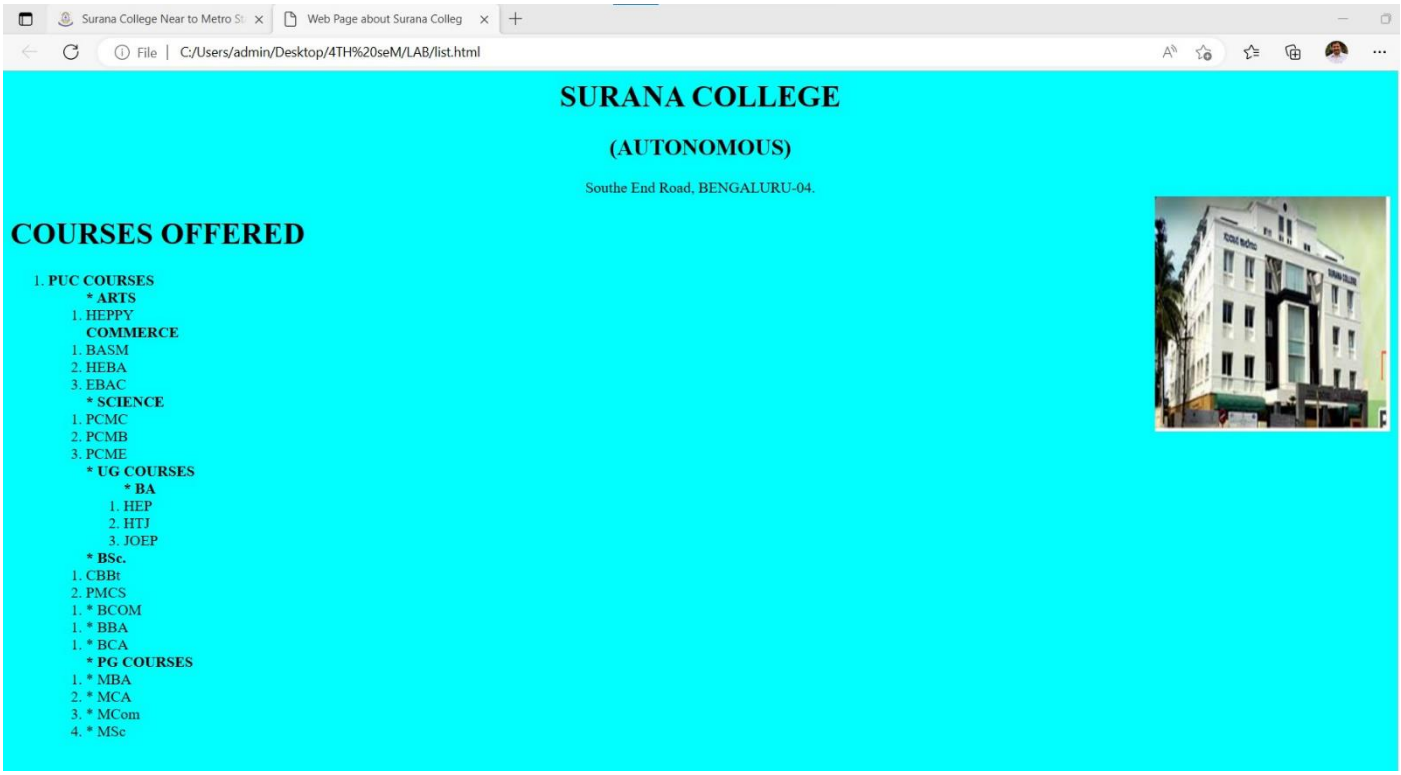
<ol> * BSc.

<li> CBBt </li>

<li> PMCS </li>

</ol>

<ol><li> * BCOM </li></ol>

```
<ol> <li>     * BBA </li></ol>
<ol> <li>     * BCA </li></ol>
<ol>
<b>* PG COURSES</b>
<li>    * MBA</li>
<li>    * MCA </li>
<li>    * MCom</li>
<li>    * MSc</li>
</ol>
</body>
</html>
```

Output: