



IIIT SONEPAT

AP LAB FILE

NAME- RACHIT SONTALIA

ROLL NO.- 11911079

BRANCH- CSE

1-CREATING AN HTML WEB PAGE FORMS

PROCEDURE

<FORM> element defines to collect user information.

<input> is used to define user input.

<label> is used to define input heading.

We use **<submit>** button to submit the information.

The **<action>** button is used to define the action when submit button is clicked.

<target> attribute specifies whether the action page will open in same page or in new tab.

There are two types of method attribute GET and POST.

If we use GET method then the data will be available in the page's address box.

The POST method does not display the information in the address field.

<name> attribute must be specified with the input element so as to perform action using action.php .

These are tags and attributes used in creating the HTML form page.

PROGRAM

```
<!DOCTYPE html>
<html lang="en" dir="ltr">
<head>
<meta charset="utf-8">
<title>Register</title>
</head>
<body>
<center><h1>REGISTRATION FORM</h1></center>
<h5><time></time></h5>
<feildset>
<form      action="meta.html"   method="post"
autocomplete="on">
<!--hidden input type contains hidden
information that will also be processed in
action browser-->
<input      type="hidden"        name="recipient"
value="">

<input type="hidden" name="subject" value="">
```

```
<input      type="hidden"      name="redirect"
value="">
```

```
<!--input type text inserts a text feild to
be input by user-->
```

```
<p><feildset><label>First Name:
<input type="text" placeholder="First Name"
id="firstname"name="name"          size="25"
maxlength="30">
</label>(First name)</feildset></p>
```

```
<p><label>Last Name:
<input type="text" placeholder="Last Name"
id="lastname"name="name"          size="25"
maxlength="30">
</label>(Last name)</p>
```

```
<p>
<label>Date:
<input type="date"/>
(yyyy-mm-dd)
</label>
</p>
```

```
<p><label>E-mail address:
<input      type="email"      name="details"
placeholder="name@domain.com"
required></label>
</p>
```

```
<p><label>Phone Number
<input      type="tel"      name="details"
placeholder="#####"      pattern="\d{10}"
required></label>
</p>
```

```
<p>
<label>Datetime Local:
<input type="datetime-local"/>
(yyyy-mm-ddThh:mm, such as 2012-01-27T03:15)
</label>
</p>
<p>
```

```

<label for="txtList">Qualifications:
<input      type="text"      id="txtList"
placeholder="Qualifications"
list="Qualifications">
<datalist id="Qualifications">
<option value="Matric">
<option value="High School">
<option value="UG">
<option value="PG">
</datalist>
</label>
</p>
<p>
<strong>Team you liked</strong><br>
<label>Programming team
<input type="checkbox" name="teamselection"
value="programming">
</label>
<label>Creative team
<input type="checkbox" name="teamselection"
value="creative">
</label>
<label>Multimedia team
<input type="checkbox" name="teamselection"
value="multimedia">
</label>
<label>Testing team
<input type="checkbox" name="teamselection"
value="testing">
</label>
</p>
<p>
<strong>Confirm</strong>
<label>Yes
<input type="radio" name="confirmation"
value="yes" checked>
</label>
<label>No
<input type="radio" name="confirmation"
value="no">
<!--name class must be same in a given
paragraph-->

```

```
</label>
</p>
<p>
<label>Rate our site
<select name="rating">
<option selected>Amazing</option>
<option>10</option>
<option>9</option>
<option>8</option>
<option>7</option>
<option>6</option>
<option>5</option>
<option>4</option>
<option>3</option>
<option>2</option>
<option>1</option>
<option>Awful</option>
</select>
</label>
</p>
<p>
<label>
Comments<br>
<textarea      name="comments"      rows="4"
cols="40">Enter your comment</textarea>
</label>
</p>
<p>
<input type="submit"  value="Submit">
<input type="reset"  value="Clear">
</p>
</form>
</feildset>
</body>
</html>
```

OUTPUT:



REGISTRATION FORM

First Name: (First name)

Last Name: (Last name)

Date: (yyyy-mm-dd)

E-mail address:

Phone Number

Datetime Local: (yyyy-mm-ddThh:mm, such as 2012-01-27T03:15)

Qualifications:

Team you liked

Programming team ☐ Creative team ☐ Multimedia team ☐ Testing team ☐

Confirm Yes ☒ No ☐

Rate our site

Comments

2-CREATING HOME PAGE USING HTML

PROCEDURE

In this program I have used both HTML and CSS to make the page creative and look great.

The <style> tag is used to apply various CSS to the program such as background colour, text colour, text (italics, bold, underlined) etc.

In the <body> I have used <div> tag to make separate divisions for separate text and to apply different CSS to different divisions.

The <id> tag is used to make separate ids for various attributes and to apply different formatting styles to each of them in the <style> tag.

The tag defines the unordered list and defines the list items.

 defines the ordered list, we can also define whether we want to use numbers in list or characters to define various list items in an ordered list.

The tag is used to add an image to our HTML page.

I have also embedded a youtube video in the HTML page using the <iframe> tag and <align> attribute to define the alignment of the frame with respect to the web page.

These are tags and attributes used in creating HOME PAGE USING HTML.

PROGRAM

```
<html>
  <head>
    <title>Hello World!!</title>
    <style type = "text/css">
      #h1 {
```

```
        text-decoration-color: rgb(57, 99, 238);
    }
    #h2 {
        text-emphasis-color: rgb(84, 119, 226);
        position: relative;
        left: 2000px;
    }
    body {
        margin: 0px 0px 0px 0px;
        background-color: black;
        color: aliceblue ;
    }
    #frame {
        padding-top: 50px;
        padding-right: 10px;
    }
    #earth {
        border-radius: 300px;
        float: center;
        padding-left: 10px;
    }
    #whole {
        background-color: gray;
        border-radius: 12px;
        margin: 0px 100px 0px 100px;
        padding-left: 10px;
        padding-bottom: 10px;
```



```
padding-right: 10px;
padding-top: 50px;

}
#about-earth {
    text-align: center;
    text-size-adjust: 150%;
}
#ribbon {
    position: fixed;
    background-color: lightslategray;
    border-radius: 20px;
    margin-left: auto;
    margin-right: auto;
    width: 100%;
    text-align: center;
    font-size: large;
}
#button {
    border-radius: 10px;
    font-family: 'Franklin Gothic Medium', 'Arial
Narrow', Arial, sans-serif;
    font-weight: 200;
    background-color: dodgerblue;
    height: 7%;
    width: 7%;
}
```

```

        #button:hover {
            background-color: darkblue;
            color: antiquewhite;
        }
        #moon {
            text-decoration: none;
        }
        #moon:hover {
            color:darkblue;
            text-decoration: underline;
            text-transform: uppercase ;
        }
    </style>
</head>
<body>
    <div id="ribon"><p>Welcome to the 1<sup>st</sup>
website . Please suggest changes &#1230nly Those that I can
change&#125</p></div>
    <div id="whole"><p id="h1"><h1 align="center">Hello
World!!</h1></p>
    <p id="h2"><h2 align="center">A few facts about world we
live in</h2></p>
    <iframe id="frame" width="560" height="315"
src="https://www.youtube.com/embed/FG0fTKAqZ5g" frameborder="0"
allow="accelerometer; autoplay; encrypted-media; gyroscope;
picture-in-picture" allowfullscreen align="right"></iframe>
    <p></p>

```

`<p id="about-earth">Earth is a third planet from the Sun and is the largest of terrestrial planets. Unlike the other planets in solar system that are named after classic deities the Earth's name comes from the
`

`Anglo-Saxon word erda which means ground or soil. The earth was formed approximately 4.54 billion years ago and is only known planet to support life.`

`<hr>`

`<h2>About earth</h2>`

``

`Mass:5.972×10²⁴kg`

`Diameter at equator:12,756km`

`Satellites:The moon`

``

`<hr>`

`<p><h2>Top 3 earth facts</h2></p>`

``

`The earth rotation is gradually slowing.`

`A year isn't exactly 365 days, and the earth doesn't take 24 hours to rotate.`

`70% of Earth's surface is water, and only one third of its fresh water is unfrozen.`

``

``

`<hr>`

`<table>`

`<tbody>`

`<thead>`

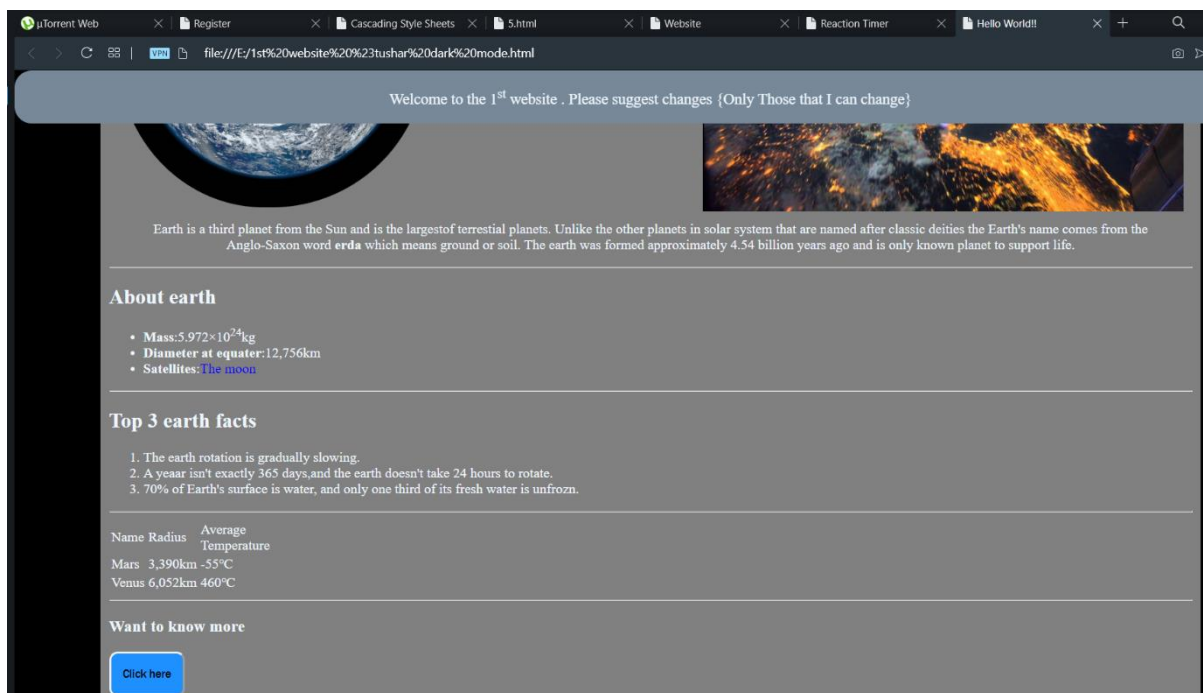
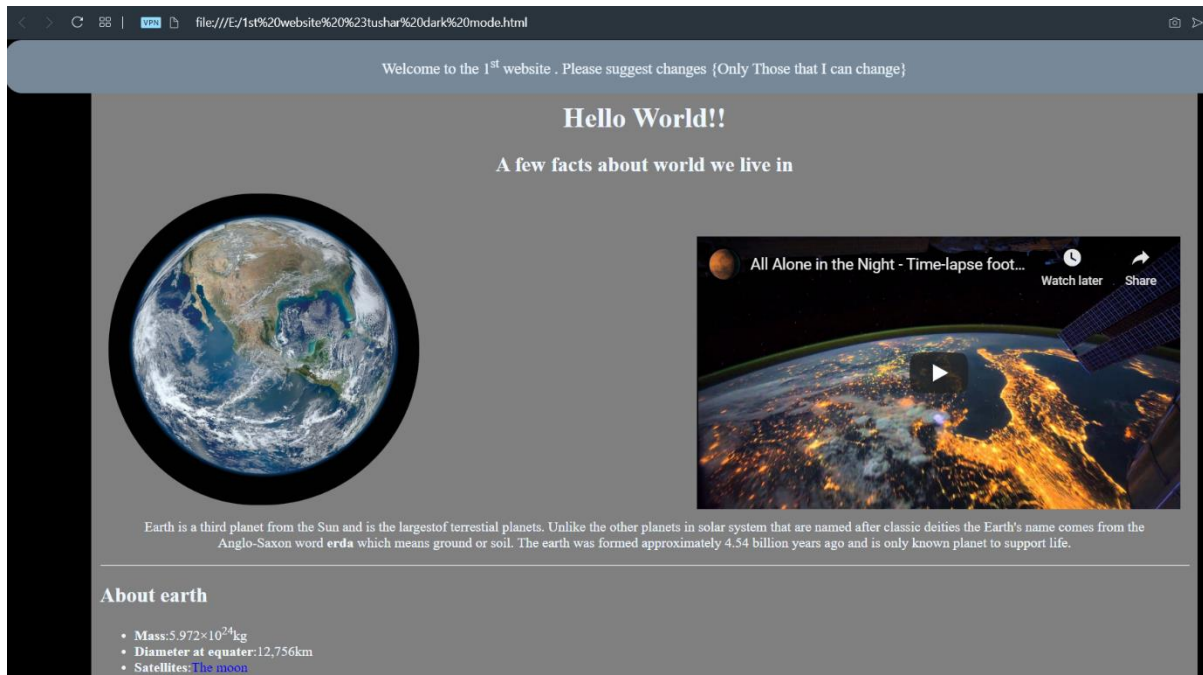
`<tr>`

```

        <td>Name</td>
        <td>Radius</td>
        <td>Average<br>Temperature</td>
    </tr>
</thead>
    <tr>
        <td>Mars</td>
        <td>3,390km</td>
        <td>-55&#8451</td>
    </tr>
    <tr>
        <td>Venus</td>
        <td>6,052km</td>
        <td>460&#8451</td>
    </tr>
</tbody>
</table>
<hr>
<p><h3>Want to know more</h3></p>
<p><form    action="https://www.livescience.com/19102-amazing-
facts-earth.html">
    <input id="button" type="submit" value="Click here"
target="_blank">
</form></p></div>
</body>
</html>

```

OUTPUT:



3- CREATING XHTML AND CSS AND UNDERSTANDING ITS USE IN CREATING WEB PAGES

PROCEDURE

XHTML or Extensible Hypertext Markup Language is often referred to as strictly followed HTML document. There are certain compulsory and predefined rules:

1-Tags must be properly nested.

2-Tag name must be in lowercase.

3-All tags must be properly closed even empty tags.

It was developed by W3C i.e. WORLD WIDE WEB CONSORTIUM.

It consists of 3 parts DOCTYPE, HEAD and BODY.

All the other tags and attributes are same as simple html document.

PROGRAM

```
<!DOCTYPE  
html>
```

```
<html lang="en" dir="ltr">  
  <head>  
    <meta charset="utf-8">  
    <title>Cascading Style Sheets</title>  
    <style media="screen" type="text/css">  
      body  
      {  
        background-color: rgb(0,0,122,0.3);  
        //background-image: url(img1.png);  
        // background-repeat: no-repeat;  
        // background-size: contain;  
      }  
      p  
      {  
        padding-top:10pt;  
        paddind-bottom:10pt;  
        text-indent: 1em;  
      }  
    </style>  
  </head>  
</html>
```

```

em
{
    font-weight : normal;
    color : #6F0F0F;
}
h1
{
    font-family : tahoma,san-
serif,Helvetica;
    border-bottom:2px dotted blue;
}
p
{
    font-size : 12pt;
    font-family : san-serif,arial;
}
.special
{
    color : purple;
}
a
{
    text-decoration:none;
}
a:hover
{
    text-decoration: underline;
    font-weight:bold;
    color:green;
}
a:visited
{
    color:hotpink;
}
a:active
{
    background-color:rgba(126, 0, 0,
0.4);
}
li
{
    margin-left: 40px;
}

```

```

    }
    aside
    {
        font-size: .8em;
        float:right;
    }
    table
    {
        border-collapse: collapse;
        border-style:outset;
    }
</style>
</head>
<body>
    <h1 class="special"><center>Cascading
Style Sheets(CSS3)</center></h1>
    <a href="#W3C">Go to W3C</a>
    <h3>WHAT IS CSS3?</h3>
    <p>Formatting and presentation of any
HTML document is done by using cascading
style sheets(CSS3).</p>
    <p style="font-size: 18pt;">The th\ree
way of using CSS3 are : </p>
    <ul>
        <li>INLINE STYLING</li>
        <li>EMBEDDED STYLE SHEETS</li>
        <li>LINKING EXTERNAL STYLE SHEETS</li>
    </ul>
    <p>This page is to demonstrate the use of
CSS3 in our HTML document. The CSS is used to
style your html doc. file as it can be used
in three ways by embedding it in your elememt
tag the second way is to use the style
element tag in the head of your HTML file and
then calling the following tag for styling
the last method is to create a seperate file
of css and then linking it to yur html doc.
file using link tag and href attribute. </p>
    <p>The process of linking external style
sheets to your HTML document is also known as
skinning.</p>
    <h3>Benefits of using CSS3</h3>

```



```

<ol>
  <li>Improved control over
formatting</li>
  <li>Improves site maintainability</li>
  <li>Improves page download speed</li>
  <li>Improves output flexibility</li>
</ol>
<h3 >CSS3 Properties</h3>
<table border="1px" width="50%">
<thead>
<td>Property Type</td>
<td>Property</td>
</thead>
<tr>
<td rowspan="5">FONTS</td>
<td>font-family</td>
</tr>
<tr>
<td>font-size</td>
</tr>
<tr>
<td>font-style</td>
</tr>
<tr>
<td>font-weight</td>
</tr>
<tr>
<td>font-face</td>
</tr>
<tr>
<td rowspan="5">TEXT</td>
<td>letter-spacing</td>
</tr>
<tr>
<td>line-height</td>
</tr>
<tr>
<td>text-align</td>
</tr>
<tr>
<td>text-decoration</td>
</tr>

```

```
<tr>
<td>text-indent</td>
</tr>
<tr>
<td rowspan="5">COLOR AND BACKGROUND</td>
<td>background-color</td>
</tr>
<tr>
<td>background-image</td>
</tr>
<tr>
<td>background-position</td>
</tr>
<tr>
<td>background-repeat</td>
</tr>
<tr>
<td>color</td>
</tr>
<tr>
<td rowspan="6">BORDERS</td>
<td>border-color</td>
</tr>
<tr>
<td>border-width</td>
</tr>
<tr>
<td>border-style</td>
</tr>
<tr>
<td>border-top</td>
</tr>
<tr>
<td>border-top-color</td>
</tr>
<tr>
<td>border-top-width</td>
</tr>
<tr>
<td rowspan="4">SPACING</td>
<td>padding</td>
</tr>
```

```

        <tr>
            <td>padding-top,padding-bottom,padding-
right,padding-left</td>
        </tr>
        <tr>
            <td>margin</td>
        </tr>
        <tr>
            <td>margin-top,margin-bottom,margin-
left,margin-right</td>
        </tr>
        <tr>
            <td rowspan="5">SIZING</td>
            <td>max-height</td>
        </tr>
        <tr>
            <td>max-width</td>
        </tr>
        <tr>
            <td>min-height</td>
        </tr>
        <tr>
            <td>min-width</td>
        </tr>
        <tr>
            <td>width</td>
        </tr>
        <tr>
            <td rowspan="5">LAYOUTS</td>
            <td>bottom,left,top and right</td>
        </tr>
        <tr>Overflow</tr>
        <tr>
            <td>position</td>
        </tr>
        <tr>
            <td>visibility</td>
        </tr>
        <tr>
            <td>z-index</td>
        </tr>
        <tr>

```

```

<td rowspan="3">LISTS</td>
<td>list-style</td>
</tr>
<tr>
<td>list-style-image</td>
</tr>
<tr>
<td>list-style-type</td>
</tr>
</table>

```

Applying style class</h3>

To apply style class to specify the special style to a particular paragraph over a html document containing several paragraph element in the html document user shall declare the class attribute in that particular html element and then call it later in the embedded style sheet by using period(.)class. </p>

```
<details><summary>Psuedo Class</summary>
```

Psuedo class gives you access to information that's not declared in the document, such as whether the mouse hovering over an element or whether the user previously clicked(visited) a particular hyperlink</p>

```
</details>
```

Measurement Unit in CSS</h3>

You can classify the measurement in CSS3 in the following type :</p>

```
<ol>
```

- Relative : A pixel is a relative-length measuement- it varies in size, based on screen resolution. Other relative length includes em(which, as a measurement means the font's uppercase M height-the most frequently used font measurement), ex(the font's x-height-usually set to a lowercase x's heigth) and percentage(e.g., font-size:50%)

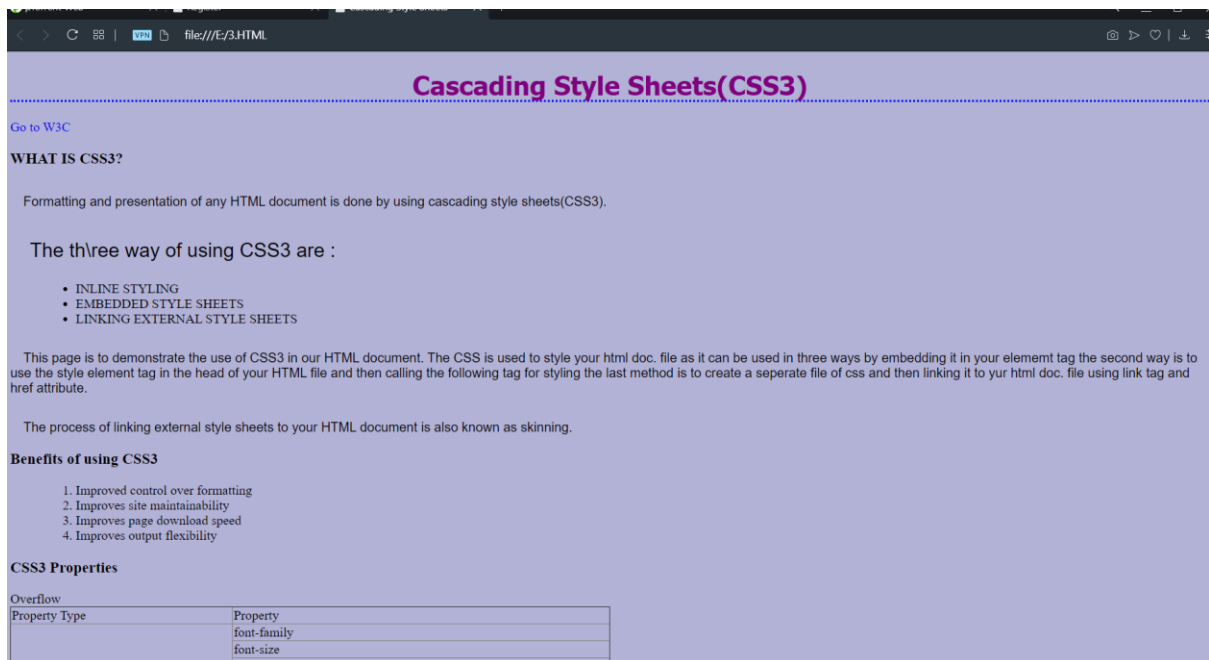
- Absolute : They do not vary in size based on the system. These units are inches(in), centimeter(cm), millimeter(mm),

```

point(pt; 1pt=1/72inches), and picas(pi;
1pc=12points)</li>
</ol>
<p>Whenever possible, use relative-length
measurement. If you use absolute-length
measurement, your document may not scale well
on some client browsers(e.g., smartphones)
</p>
<aside id="W3C">
    To ensure that your style sheets work
    in various web browsers, test them on many
    web browsers, and use the <a
href="http://www.google.com"
target="_blank">W3C CSS validator.</a>
</aside>
</body>
</html>

```

OUTPUT:



file:///E:/3.HTML

	border-top-color
	border-top-width
	padding
SPACING	padding-top,padding-bottom,padding-right,padding-left
	margin
	margin-top,margin-bottom,margin-left,margin-right
	max-height
SIZING	max-width
	min-height
	min-width
	width
	bottom,left,top and right
LAYOUTS	position
	visibility
	z-index
	list-style
LISTS	list-style-image
	list-style-type

Applying style class

To apply style class to specify the special style to a particular paragraph over a html document containing several paragraph element in the html document user shall declare the class attribute in that particular html element and then call it later in the embedded style sheet by using period(.)class.

► Paused Class

Measurement Unit in CSS

You can classify the measurement in CSS3 in the following type :

1. Relative : a pixel is a relative-length measurement- it varies in size, based on screen resolution. Other relative length includes em(which, as a measurement means the four's uppercase M height-the most frequently used font measurement), ex(the font's x-height-usually set to a lowercase x's height) and percentage(e.g., font-size:50%)
2. Absolute : They do not vary in size based on the system. These units are inches(in), centimeter(mm), point(pt; 1pt=1/72inches), and pica(pi; 1pc=12points)

Whenever possible, use relative-length measurement. If you use absolute-length measurement, your document may not scale well on some client browsers(e.g., smartphones)

To ensure that your style sheets work in various web browsers, test them on many web browsers, and use the [W3C CSS validation](#)

file:///E:/3.HTML

CSS3 Properties

Overflow

Property Type	Property
	font-family
	font-size
FONTS	font-style
	font-weight
	font-face
	letter-spacing
	line-height
TEXT	text-align
	text-decoration
	text-indent
	background-color
	background-image
COLOR AND BACKGROUND	background-position
	background-repeat
	color
	border-color
	border-width
	border-style
BORDERS	border-top
	border-top-color
	border-top-width
	padding
	padding-top,padding-bottom,padding-right,padding-left
SPACING	margin
	margin-top,margin-bottom,margin-left,margin-right
	max-height
	max-width
SIZING	min-height
	min-width
	width
	bottom,left,top and right
	position

4-SETTING UP AND CONFIGURATION OF APACHE TOMCAT SERVER

Procedure:-

Step 1

Download and Install Tomcat

1. Go to <http://tomcat.apache.org/download-70.cgi> then go to the Binary Distribution/Core/ and download the "zip" package (for example "apache-tomcat-7.0.40.zip")
2. Now **unzip** the downloaded file into a directory of our choice.

Step 2

Check the installed directory to ensure it contains the following sub-directories:

- a. bin folder
- b. logs folder
- c. webapps folder
- d. work folder
- e. temp folder
- f. conf folder
- g. lib folder

Step 3

Create Environment variable JAVA_HOME.

Configure Tomcat Server

The configuration files of the Apache Tomcat Server are located in the "conf" sub-directory of our

Tomcat installed directory, for example "E:\myserver\tomcat7.0.40\conf". There are 4 configuration

XML files:

1. context.xml file
2. tomcat-users.xml file
3. server.xml file
4. web.xml file

Before proceeding, make a BACKUP of the configuration files.

Step 4(a) "conf\web.xml"; Enabling a Directory Listing

Open the configuration file "web.xml". We shall enable the directory listing by changing "listings" from

"false" to "true" for the "default" servlet.

<param-value>**true**</param-value> like:

Step 4(b) "conf\server.xml file"; set the TCP Port Number

Open the file "server.xml" in a text editor.

The default port number of Tomcat is 8080. We can change it according to our need.

Step 4(c) "conf\context.xml"; Enabling Automatic Reload

In that we set reloadable="true" to the <Context> element to enable automatic reload after code

Step 4(d) (Optional) "conf\tomcat-users.xml"

It is used to manage Tomcat by adding the highlighted lines, inside the <tomcat-users> elements.

In that we can add a password and username as an optional step.

Step 5

Now, start the tomcat server

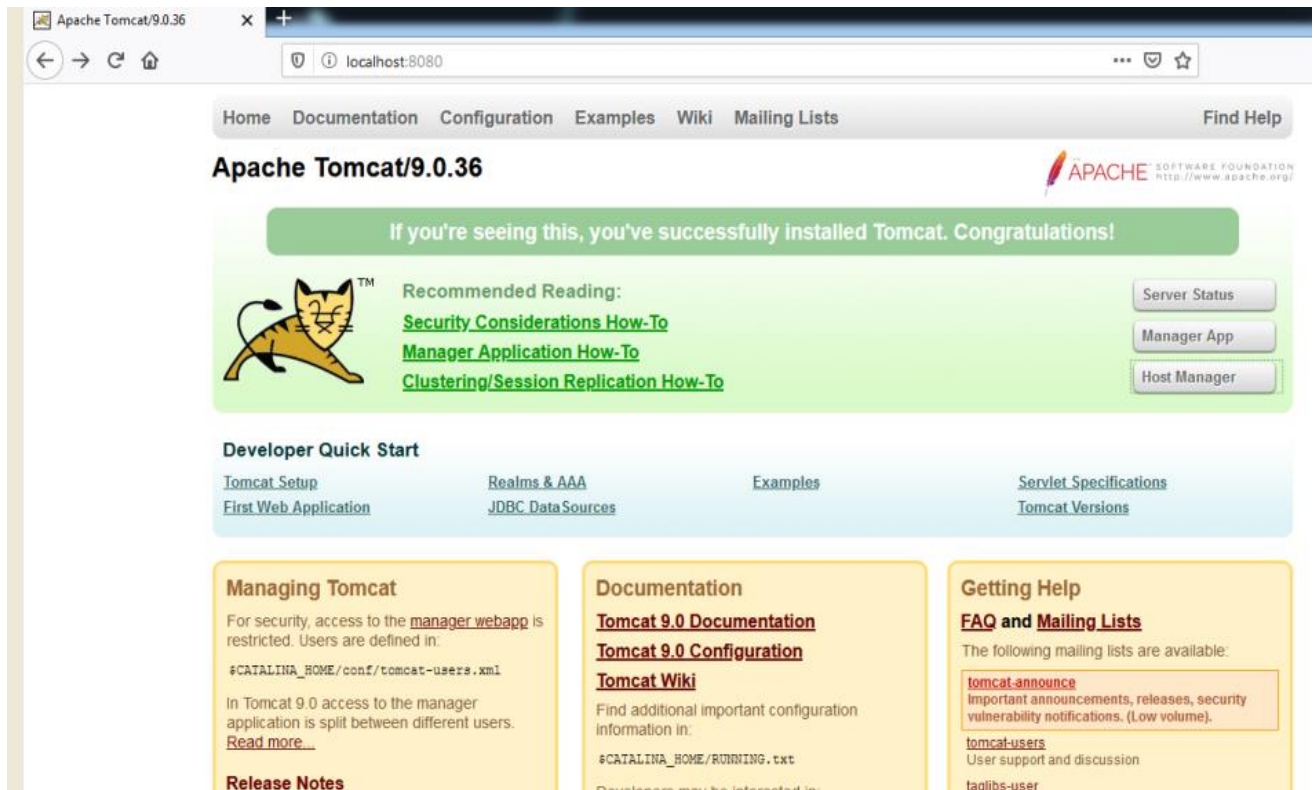
Executable programs and scripts are kept in the "bin" sub-directory of the Tomcat installed directory

Step 5(a) Start Server

Step 5(b) Access the Server

Open a browser then enter the URL "http://localhost:8080" to access the Tomcat server's welcome page.

Output-




The screenshot shows a web browser window with the address bar set to `localhost:8080`. The page title is "Apache Tomcat/9.0.36". The navigation bar includes links for Home, Documentation, Configuration, Examples, Wiki, Mailing Lists, and a Find Help button. A green banner at the top of the main content area reads: "If you're seeing this, you've successfully installed Tomcat. Congratulations!". Below this banner, on the left, is the Tomcat logo (a stylized orange cat). To the right of the logo, under the heading "Recommended Reading:", are three links: [Security Considerations How-To](#), [Manager Application How-To](#), and [Clustering/Session Replication How-To](#). To the right of these links are three buttons: "Server Status", "Manager App", and "Host Manager". Below the banner is a "Developer Quick Start" section with a light blue background, containing links for [Tomcat Setup](#), [First Web Application](#), [Realms & AAA](#), [JDBC Data Sources](#), [Examples](#), [Servlet Specifications](#), and [Tomcat Versions](#). At the bottom, there are three yellow boxes. The first box, "Managing Tomcat", contains text about security and access to the manager webapp, a link to `$CATALINA_HOME/conf/tomcat-users.xml`, and a link to [Read more](#). The second box, "Documentation", contains links for [Tomcat 9.0 Documentation](#), [Tomcat 9.0 Configuration](#), and [Tomcat Wiki](#), followed by text about finding additional configuration information and a link to `$CATALINA_HOME/RUNNING.txt`. The third box, "Getting Help", contains a link for [FAQ and Mailing Lists](#), text about available mailing lists, and links for [tomcat-announce](#), [tomcat-users](#), and [taglibs-user](#).

Apache Tomcat/9.0.36

Home Documentation Configuration Examples Wiki Mailing Lists Find Help

Apache Tomcat/9.0.36

If you're seeing this, you've successfully installed Tomcat. Congratulations!

 Recommended Reading:

- [Security Considerations How-To](#)
- [Manager Application How-To](#)
- [Clustering/Session Replication How-To](#)

Server Status
Manager App
Host Manager

Developer Quick Start

- [Tomcat Setup](#)
- [First Web Application](#)
- [Realms & AAA](#)
- [JDBC Data Sources](#)
- [Examples](#)
- [Servlet Specifications](#)
- [Tomcat Versions](#)

Managing Tomcat

For security, access to the [manager webapp](#) is restricted. Users are defined in:

```
$CATALINA_HOME/conf/tomcat-users.xml
```

In Tomcat 9.0 access to the manager application is split between different users.
[Read more](#)

[Release Notes](#)

Documentation

[Tomcat 9.0 Documentation](#)
[Tomcat 9.0 Configuration](#)
[Tomcat Wiki](#)

Find additional important configuration information in:

```
$CATALINA_HOME/RUNNING.txt
```

Developers may be interested in:

Getting Help

[FAQ and Mailing Lists](#)

The following mailing lists are available:

- [tomcat-announce](#)
Important announcements, releases, security vulnerability notifications. (Low volume).
- [tomcat-users](#)
User support and discussion
- [taglibs-user](#)

5-UNDERSTANDING MODIFICATION OF WEB.XML

PROCEDURE

The web.xml file is deployment descriptor for a servlet-based java web application.

Among other things, it declares which servlets exist and which URLs they handle. The part you cite defines a Servlet Filter.

Servlet filters can do all kinds of preprocessing on requests.

```
<?xml version="1.0" encoding="UTF-8"?>
```

Advantages of web.xml files

- The first benefit of the xml is we can write it in our own markup language. There is no restriction to limited sets of tags. By defining our own tag we can create a markup language in terms of specific problem.
- Searching the data is easy and efficient.

PROGRAM

```
<?xml version="1.0" encoding="UTF-8"?>
```

```
<note>
```

```
    <to>tushar</to><br>
```

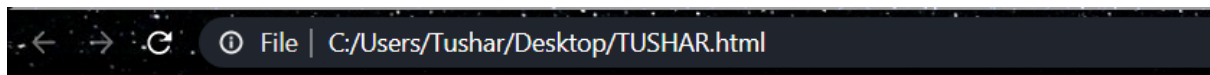
```
    <from>rachit</from><br>
```

```
    <heading>Reminder</heading><br>
```

```
    <body>Have a great day!</body>
```

```
</note>
```

OUTPUT:



Paras
Tushar
Reminder
Have a great day!

6-CREATING WEBSITES USING PHP

PROCEDURE

PHP stands for Hypertext Preprocessor.

\$ Symbol is used to define a variable in php.

POST method is used to get all the information input by the user after he/she clicks the submit button.

<input> tag is an attribute of <form> element. It is used to input various data from the user.

The php is written inside <?php....?> .

“echo” is used to print something on the screen.

PROGRAM

```
<html>
    <head>
        <meta charset="UTF-8">
        <meta name="viewport" content="width=device-width,
initial-scale=1.0">
        <title>Website</title>
    </head>
    <body>
    <?php

$name = $email = $gender = $comment = $website = "";

if ($_SERVER["REQUEST_METHOD"] == "POST") {
    $name = test_input($_POST["name"]);
    $email = test_input($_POST["email"]);
    $website = test_input($_POST["website"]);
    $comment = test_input($_POST["comment"]);
    $gender = test_input($_POST["gender"]);
}

function test_input($data) {
```

```

    $data = trim($data);
    $data = stripslashes($data);
    $data = htmlspecialchars($data);
    return $data;
}
?>

```

```

<h2>PHP Form Validation Example</h2>
<form method="post" action="<?php echo
htmlspecialchars($_SERVER["PHP_SELF"]);?>">
    Name: <input type="text" name="name">
    <br><br>
    E-mail: <input type="text" name="email">
    <br><br>
    Website: <input type="text" name="website">
    <br><br>
    Comment: <textarea name="comment" rows="5"
cols="40"></textarea>
    <br><br>
    Gender:
    <input type="radio" name="gender"
value="female">Female
    <input type="radio" name="gender" value="male">Male
    <input type="radio" name="gender"
value="other">Other
    <br><br>
    <input type="submit" name="submit" value="Submit">
</form>

```

```

<?php
echo "<h2>Check Your Entry:</h2>";
echo $name;
echo "<br>";
echo $email;
echo "<br>";
echo $website;
echo "<br>";
echo $comment;
echo "<br>";
echo $gender;

```

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

OUTPUT :



PHP Form Validation Example

Name:

E-mail:

Website:

Comment:

Gender: ☐ Female ☐ Male ☐ Other

7-UNDERSTANDING JAVASCRIPT

PROCEDURE

JAVASCRIPT was originally created to “make web pages alive”. For understanding javascript, I have created a program that will give you the feeling that the page is alive.

I call it as reaction timer. The program is designed in such a way that some squares and circles will appear on the screen randomly in random colours and random sizes and you have to click on the figures ASAP.

It will then tell you the time which you took to click on the image.

There is the use of Math.random() function for generating random colours and random sizes and shapes and to record the time I have used the setTimeout() function.

This program is a very good example for understanding javascript, its various attributes, tags such as document.getElementById() etc.

PROGRAM

```
<html>
<head>
<title>Reaction Timer</title>
<style type="text/css">
body {
font-family: sans-serif;
}
#shape {
width: 200px;
height: 200px;
background-color: red;
display: none;
position: relative;
```

```
}
.bold {
font-weight: bold;
}
</style>
</head>
<body>
<h1>Test Your Reactions!</h1>
<p>Click on the boxes and circles as quickly as you can!</p>
<p class="bold">Your time: <span
id="timeTaken"></span></p>
<div id="shape"></div>
<script type="text/javascript">
var start = new Date().getTime();
function getRandomColor() {
var letters = '0123456789ABCDEF'.split('');

var color = '#';

for (var i = 0; i < 6; i++ ) {

color += letters[Math.floor(Math.random() * 16)];

}

return color;
```



```
}
```

```
function makeShapeAppear() {
```

```
var top = Math.random() * 400;
```

```
var left = Math.random() * 400;
```

```
var width = (Math.random() * 200) + 100;
```

```
if (Math.random() > 0.5) {
```

```
document.getElementById("shape").style.borderRadius = "50%";
```

```
} else {
```

```
document.getElementById("shape").style.borderRadius = "0";
```

```
}
```

```
document.getElementById("shape").style.backgroundColor =  
getRandomColor();
```

```
document.getElementById("shape").style.width = width + "px";
```

```
document.getElementById("shape").style.height = width + "px";
```

```
document.getElementById("shape").style.top = top + "px";
```

```
document.getElementById("shape").style.left = left + "px";
```

```
document.getElementById("shape").style.display = "block";
```

```
start = new Date().getTime();
```

```
}
```

```
function appearAfterDelay() {
```

```
    setTimeout(makeShapeAppear, Math.random() * 2000);
```

```
}
```

```
appearAfterDelay();
```

```
document.getElementById("shape").onclick = function() {
```

```
    document.getElementById("shape").style.display = "none";
```

```
    var end = new Date().getTime();
```

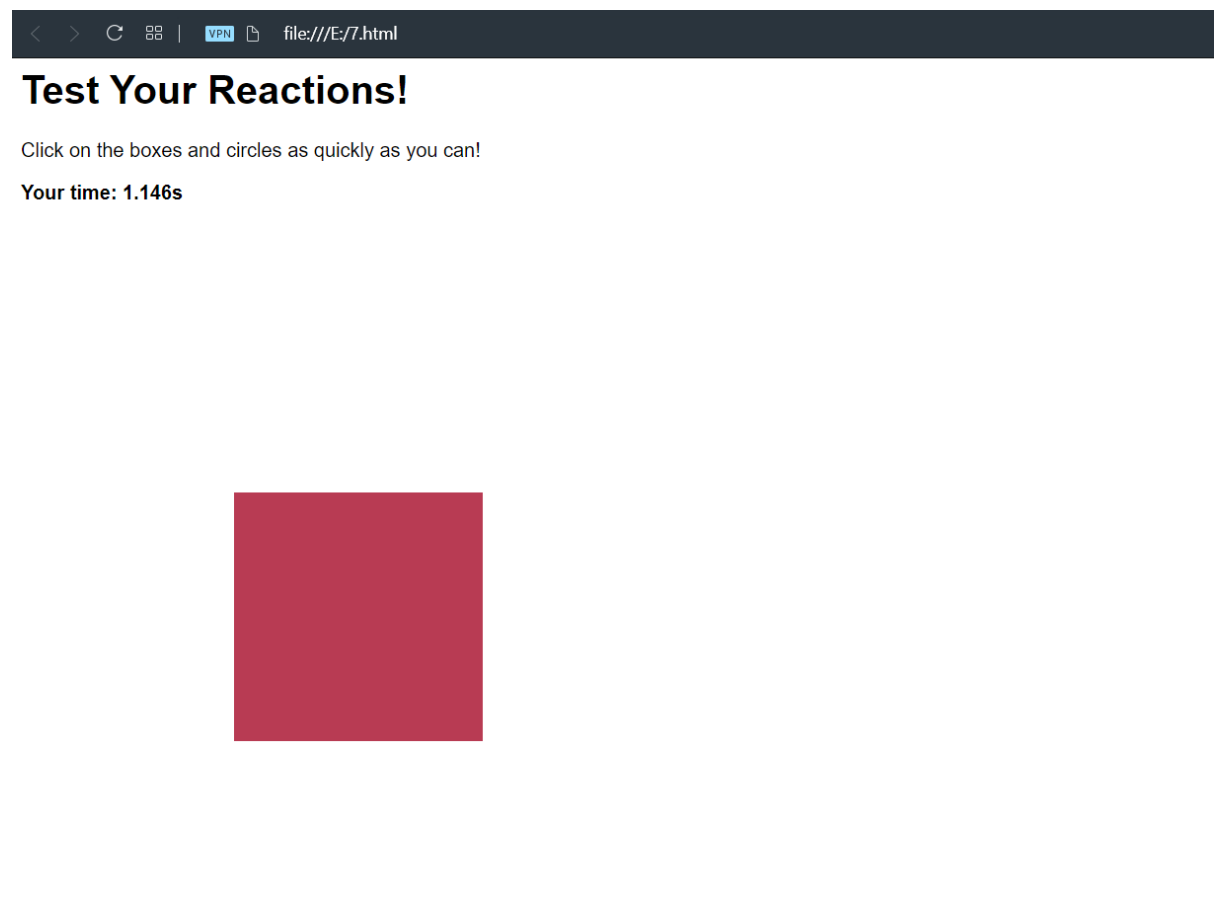
```
    var timeTaken = (end - start) / 1000;
```

```
    document.getElementById("timeTaken").innerHTML = timeTaken +  
    "s";
```

```
    appearAfterDelay();
```

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

OUTPUT:



8-CREATING A WEB PAGE WITH BACK-END IN PHP AND FRONT-END IN JAVASCRIPT AND HOSTING IT ON APACHE TOMCAT SERVER

PROCEDURE

In this program I have created a HTML form to take input from the user and with the help of XAMPP software I connected my php script to the MySQL database.

Further, I have used CSS in <style> tag to give the webpage an attractive look.

Many HTML tags are used in this programs such as , <div> , <form> etc.

When the user clicks the submit button I have used the <onclick> tag which activates the javascript function which contains the php script.

I have used the POST method in the form.

I created a new database in the MySQL and a new table for storing the data entered by the user.

I have used \$query and \$link functions for inserting the data of user in the MySQL table on the server.

In this way I have created a web page which uses HTML, CSS and Javascript in front end and uses PHP for back end scripting.

PROGRAM

```
<html>

    <head>

        <title>

            My form

        </title>

    <style>

        #form{
```

```
margin-left: 30%;  
margin-right: 30%;  
margin-top: 25px;  
background-color: aqua;  
padding-right: 50px;  
border-radius: 20px;  
padding: 10px 0px 10px 0px;  
  
}
```

```
.p1{  
  
text-decoration-style: wavy;  
font-family: cursive;  
color:purple;  
margin-left: 20px;  
font-weight: bold;  
  
}  
  
.input{
```

```
margin-left: 25px;
```

```
        border-radius: 10px;
        width: 80%;
        height: 40px;
        background-color: greenyellow;

    }

    .button{

        border-radius: 7px;
        background-color: chartreuse;
        margin-left: 20%;
        width: 90px;
        height: 50px;

    }

    .button:hover{

        color: aliceblue;
        background-color: darkgreen;

    }

    body{

        background-color: blueviolet;
```

```
}  
ul {  
    list-style-type: none;  
    margin: 0;  
    padding: 0;  
    overflow: hidden;  
    background-color: #333;  
}  
  
    li {  
        float: left;  
    }  
  
    li a {  
        display: block;  
        color: white;  
        text-align: center;  
        padding: 14px 16px;  
        text-decoration: none;  
    }  
  
    li a:hover:not(.active) {  
        background-color: #111;  
    }
```

```
        .active {
        background-color: #4CAF50;
        }
    </style>

</head>
<body>

    <h1 style="text-align: center;color:
white;font-style: italic;font-weight: bolder;">Fill the
form</h1>

    <ul>

        <li><a class="active"
href="http://iiitsonapat.ac.in/">Home</a></li>

        <li><a
href="http://iiitsonapat.ac.in/admissions/overview">Adm
issions</a></li>

        <li><a
href="http://iiitsonapat.ac.in/placements">Placements</
a></li>
```



```
        <li><a
href="http://iiitsonapat.ac.in/contact-
us">Contact</a></li>
```

```
</ul>
```

```
<div id="form">
```

```
    <form action="/tushar/FORM NEW.php"
method="post">
```

```
        <p class="p1"> Name: <br> <input name="name"
id="name" class="input" type="text" placeholder="Enter
Your Name" ></p>
```

```
        <p class="p1"> Roll number: <br> <input
name="roll" id="roll" class="input" type="text"
placeholder="Roll Number"></p>
```

```
        <p class="p1"> Branch: <br> <input
name="branch" id="branch" class="input" type="text"
placeholder="Enter Your Branch"></p>
```

```
        <p class="p1"> Email:<br> <input name="email"
id="email" class="input" type="email"
placeholder="example@mail.com"></p>
```

```
        <P class="p1"> Nationality:<br>
```

```
        <input name="nation" id="nation"
class="input" type="text" placeholder="Your
Nationality" >
```

```
    </P>
```

```
        <p class="p1">Current Institute:<br> <input
name="college" id="college" class="input" type="text"
placeholder="Name of Institution"></p><br>
```

```
        <p><input class="button" type="submit"
onclick="register()"> <input class="button"
type="reset"></p>
```

```
    </form>
```

```
</div>
```

```
    <script>
```

```
        function register(){
```

```
            <?php
```

```
$link=mysqli_connect("localhost","root","","tushar1");
    if(mysqli_connect_error()){
        die("there was an error.");
```

```
}

$name=$_POST['name'];
$roll=$_POST['roll'];
$email=$_POST['email'];
$branch=$_POST['branch'];
$college=$_POST['college'];
$nation=$_POST['nation'];


$query="INSERT INTO
`form`(`name`,`roll`,`branch`,`email`,`nation`,`college`
)
VALUES('$name','$roll','$branch','$email','$nation','$c
ollege')";


mysqli_query($link,$query);


$query="SELECT * FROM form";


if($result=mysqli_query($link,$query)){
    $row=mysqli_fetch_array($result);

    echo "NAME=".$row[1];
    echo " ROLL=".$row[2];
    echo " BRANCH=".$row[3];
    echo " EMAIL=".$row[4];
```

```
        echo " NATION=".$row[5];  
        echo " COLLEGE=".$row[6];  
  
    }  
    ?>  
    }  
</script>  
</body>  
</html>
```

OUTPUT



The screenshot shows a web browser window with the address bar displaying 'localhost/tushar/FORM%20NEW.php'. The page has a purple header with the text 'Fill the form' in a cursive font. Below the header is a dark navigation bar with links: 'Home' (highlighted in green), 'Admissions', 'Placements', and 'Contact'. The main content area is purple and features a light blue rounded rectangle containing a form. The form has the following fields and labels:

- Name:** Enter Your Name
- Roll number:** Roll Number
- Branch:** Enter Your Branch
- Email:** example@mail.com
- Nationality:** Your Nationality
- Current Institute:** Name of Institution

At the bottom of the form are two buttons: 'Submit' and 'Reset'.

My form localhost / 127.0.0.1 / tushar1 / localhost/phpmyadmin/sql.php?server=1&db=tushar1&table=form&pos=0

phpMyAdmin

Recent Favorites

- New
- information_schema
- mysql
- performance_schema
- phpmyadmin
- rachit
- test
- tushar
 - New
 - tushar
 - tushar1
 - New
 - form
 - form 2
 - tushar
- user

Server: 127.0.0.1 Database: tushar1 Table: form

Browse Structure SQL Search Insert Export Import Privileges Operations Tracking Triggers

Showing rows 0 - 0 (1 total, Query took 0.0012 seconds.)

SELECT * FROM `form`

☐ Profiling [Edit inline] [Edit] [Explain SQL] [Create PHP code] [Refresh]

☐ Show all | Number of rows: 25 | Filter rows: Search this table

+ Options

	index	name	roll	branch	email	nation	college
<input type="checkbox"/> Edit <input type="checkbox"/> Copy <input type="checkbox"/> Delete	1	Tushar	50	Cse	tusharupadhayay55@gmail.com	Indian	INDIAN INSTITUTE OF INFORMATION TECHNOLOGY SONIPAT

☐ Check all | With selected: ☐ Edit ☐ Copy ☐ Delete ☐ Export

☐ Show all | Number of rows: 25 | Filter rows: Search this table

Query results operations

☐ Print ☐ Copy to clipboard ☐ Export ☐ Display chart ☐ Create view

Bookmark this SQL query

Label: ☐ Let every user access this bookmark

Bookmark this SQL query

Console

9-WRITING AND UNDERSTANDING PROGRAMS IN PYTHON

(i) PYTHON PROGRAM TO ADD TO NUMBERS

```
Num1= 1.5
```

```
Num2= 6.3
```

```
Sum= num1 +num2
```

```
Print(' sum of {0} and {1} is  
{2}'.format(num1,num2,sum))
```

OUTPUT:

Shell

```
The sum of 1.5 and 6.3 is 7.8
```

```
>>> |
```

(ii) PYTHON PROGRAM TO CHECK NUMBER IS ODD OR EVEN

```
Num = int(input("enter a number:"))  
If( num%2==0:  
    Print ("{0} is even".format(num))  
Else:  
    Print("{0} is odd".format(num))
```

OUTPUT:

Shell
Enter a number: 5 5 is Odd >>>

(iii) PYTHON PROGRAM TO CHECK WHETHER A STRING IS PALINDROME OR NOT

```
My_str = 'mom'
My_str = my_str.casefold()
Rev_str = reversed(my_str)
If list (my_str) == list(rev_str):
    Print("the string is palindrome")
Else:
    Print ("the string is not a palindrome")
```

OUTPUT:


```
Shell
The string is a palindrome.
>>>
```


10-USE PYTHON LIBRARIES LIKE MATH'S STATISTICS TO CREATE PROGRAMS FOR SCIENTIFIC COMPUTATIONS

- (i) USE PYTHON TO CREATE PROGRAMS FOR SCIENTIFIC COMPUTATIONS:

```
import math
```

```
print ("Log value for base 2: ")  
print (math.log2(20))
```

	Shell
	<pre>Log value for base 2: 4.321928094887363 >>> </pre>

(ii) USING PYTHON TO CALCULATE SCIENTIFIC COMPUTATIONS:


```
import math

print("What Do You Want To Calculate?")
print("A - Sine")
print("B - Cosine")
print("C - Tangent")
t = input()
print("Enter Angle In Degrees: ")
ang = float(input())
pi = math.acos(-1)
if t == "A" or t == "a":
    print("sin(" + str(ang) + ") = " +
          str(math.sin(ang*pi/180)))

elif t == "B" or t == "b":
    print("cos(" + str(ang) + ") = " +
          str(math.cos(ang*pi/180)))

elif t == "C" or t == "c":
    print("tan(" + str(ang) + ") = " +
          str(math.tan(ang*pi/180)))
```

OUTPUT :

 Run	Shell
	<pre>What Do You Want To Calculate? A - Sine B - Cosine C - Tangent A Enter Angle In Degrees: 90 sin(90.0) = 1.0 >>> </pre>