~~46, 44, 45, 47, 48, 49~~

Date
Page

46) Create a Student admission webpage by using possible input types. introduced in HTML5. Apply CSS2 for styling the same.

→ <HTML>

<head>

<title> Student registration form </title>

<link rel = "Stylesheet" href = "ST_Lab2.css" >

</head>

<body>

<h3> MCA Registration Form </h3>

First Name

<input class = "input" type = "text" />

Last Name

<input class = "input" type = "text" />

<label> Date of birth </label>

<input class = "input" type = "date" >

Email ID

<input class = "input" type = "type />

Mobile number

<input class = "input" type = text />

Gender

<input type = "radio" value = "male" /> Male

<input type = "radio" value = "Female" /> Female

<input type = "radio" value = "other" /> Other.

Address

<textarea class = "input" name = "Address" rows = "4" > </textarea>

City

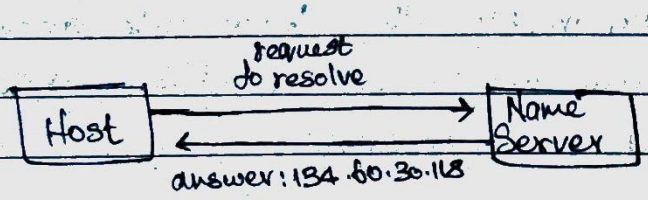
```
<input class="input" type="text" /> <br>
State and Pincode
<input class="input" type="text /> <br>
<label> Date of joining </label>
<input class="input" type="Date"> <br>
<label> Update certificate </label>
<input type="file" id="myfile" name="file"> <br>

<td> <table Style="text-align:center;"> <tr>
<td align="center"> <b> Sl.no. </b> </td>
<td align="center"> <b> Examination </b> </td>
<td align="center"> <b> Board </b> </td
<td align="center"> <b> Percentage </b> </td>
</tr>

<tr>
<td> 1 </td>
<td> Class </td>
<td> <input type="text" /> </td>
<td> <input type="text" /> </td>
</tr>

<tr>
<td> 3 </td>
<td> Graduation </td>
<td> <input type="text" /> </td>
<td> <input type="text" /> </td>
</tr>
```

```
</table>
</td> <br>

<input type="Submit">
<input type="reset">

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

11) Explain the task of DNS with a neat diagram.

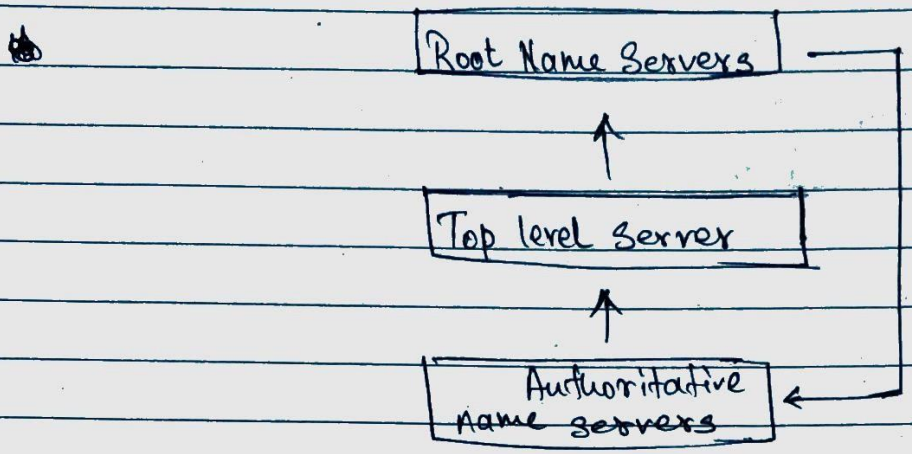
→ DNS stands for Domain Name System which is known as a host name to IP Address translation service. DNS is a distributed database implimented in a hierarchy of name servers. It is an application layer protocol for message exchange between clients and servers.

Name to Address Resolution



The host requests the DNS name server to resolve the domain name. The name server returns the IP address corresponding to that domain name to the host so that the host can further connect to the related IP address.

Hierarchy of Name Servers



Root name servers

It is contacted by name servers that can not resolve the name. It contacts authoritative name serve if name mapping is not known. it then gets the mapping and return the IP address to the host.

Top level Servers

It is responsible for .com, .org, .edu, etc. and all top level Country domains like uk, fr, ca, in, etc. They have info about authoritative domain servers and know names and IP address of each authoritative name server for second level domains.

Authoritative name servers

The organization's DNS server, providing authoritative host name to IP mapping for organization servers. It can be maintained by organization or service provider. In order to reach cse.dtu.in we have to ask the root DNS server, then it will point out to the top level domain server and then to authoritative domain name server which actually contains the IP address.

Date
Page

15) List and explain ten basic HTML tags with example

→ i) <a> tag

Also known as anchor tag is used to define hyperlink that links one page to another. It can create hyperlink to other webpage as well as files, location, or any URL. The "href" attribute is the most important attribute of the HTML tag, which links to destination page or URL

ii) <h1> to <h6> header tags.

Header tags can be used to high-light or display in bold the content or the main topic / title on the page. It is usually the first entity that is noticed on a webpage by the user. They are made to vary in size from <h1>, <h2>, <h3>... <h6> with <h1> being the largest font size to <h6> being comparitively a smaller font size.

iii) <P> tag

It is used to display paragraphs or texts with a large number of characters in them. They are usually used when in displaying paragraph of text in an article or in giving a brief detail on any topic

iv) <script> tag

Html script tag is used to specify client-side script such as Javascript. It facilitates you to write scripts within the HTML document. It can be used in defining validation or dynamic content.

v)
 tag

used to create break between html page elements. It is generally used in large text bodies or address where the division of line is necessary. It is an empty tag which means it does not need a end tag.

vi) tag

The tag is used to group any large section of elements together. They are used to apply properties or stylize form elements that are grouped by the tag.

vii) <form> tag

An HTML form is a section of a document which contains controls such as text fields, password fields, checkboxes, radio buttons, Submit button, etc. It facilitates the user to enter data that is to be sent to the server for processing.

viii) <audio> tag

HTML audio tags are used to add audio elements to a webpage such as audio clips and music files.

Supported file formats of audio in HTML 5 are:

- MP3
- WAV
- ogg

ix) <video> tag

HTML video tags are used to embed video streaming files such as movie clips or video clips onto a webpage.

Currently there are 3 video formats supported for HTML video tag

which are:

- MP4
- webM
- Ogg

*) <title> tag

The <title> tag is used to provide with title to the webpage. The <title> specified within the tag is displayed on the title bar of the browser.

Example:

```
<html>
<head>
<title> Example tag </title>
</head>
<body>
<div>
 <form>
    <p> Paragraph text </p>
    <a href = "pagelink.html"> Go to link </a>
    <h1> Heading </h1> <br>
    <audio controls>
       <source src = "Example.mp3" type = "audio">
    </audio>
    <video controls>
       <source src = "movie.mp4" type = "video">
    </video>
 </form> </div>
</body> </head>
```

4) Write short notes on the following:

→ <main>

It specifies the main content of the document. The content in <main> should be unique to the document. which includes the sidebars, navigation links, Copyright information, etc.

Example:

```
<main>
    <h1> Example </h1>
</main>
```

→ <mark>

HTML mark tag is used to highlight text that is to be displayed in a highlighted fashion among other text.

Example:

```
<mark> highlighted text </mark>
```

→ <time>

The above tag defines a specific time. The datetime attribute of the element is used to translate time into machine-readable format for further processing.

Example:

```
<P> the time <time> 11:30 </time> to <time> 12:00 </time> is special <P>
```

Date
Page

→ <dialog>

The dialog tag helps create popup dialogs or text boxes onto a webpage

Example:

<dialog open> Dialog example </dialog>

→ <Progress>

The HTML <progress> tag is used to display the progress of a task. It provides an easy way for progress bar to be displayed. It is used in conjunction with Javascript to display the progress of any task.

Example:

<progress id="file" value="35" max="100"> 10% </progress>

→ <wbr>

HTML <wbr> element represents a word break : a position within text where the browser may optionally break a line, though it is line-breaking rules would not otherwise create a break at that position

Example:

<P> This is an example text <wbr> www. <wbr> youtube </P>

→ <aside>

This tag allows elements to be placed at positions which may not be the default. The ~~position~~ content may be displayed at the side of any content.

Example:

```
<aside>
  <P> Example text </p>
</aside>
```

→ <nav>

The nav tag defines navigation links. The <nav> is intended only for navigation links. They display various navigation options which lead to other ~~hote~~ external pages.

Example:

```
<nav> <a href = "Secondpage.html"> Second page </a> </nav>
```

→ <hgroup>

It stands for heading group and is used to group the heading elements. The <hgroup> tag in html is used to wrap one or more heading elements from <h1> to <h6>.

Example:

```
<hgroup>
    <h1> Heading </h1>
</hgroup>
```

→ <figure>
The tag specifies self-contained content like illustrations, diagram, photos, code listings, etc.
While the content of the <figure> element is related to the main flow, it's position is independent of the main flow.

Example:
```
<figure>
<img src="picture.jpg" alt="picture">
</figure>
```

→ <details>
The tag is used for the content which is initially hidden but could be displayed if the user wants to see it.

Example:
```
<details>
   <summary> text </summary>
   <p> text </p>
</details>
```

25) What are input types introduced in HTML5? Explain with example

→ i) "email"

This input field type is set when the user is required to input a valid email address into the field. Any other content causes the browser to display an error when the form is submitted.

Example:

```
<input type = "email" id="email" name = "email" >
```

ii) "search"

Search type fields are intended to be used to create search boxes on pages and apps. This type of field is set by using the value search for the type attribute.

Example:

```
<input type = "search" id = "search" name = "search" >
```

iii) "tel"

A special field for filling in phone numbers can be created using "tel" as the value of the type attribute.

Example:

```
<input type = "tel" id = "tel" name="tel">
```

Date
Page

iv) "url"

A special type of field for entering URLs; can be created using the value url for the type attribute. It adds special validation constraints to the field.

Example:

```
<input type="url" id="url" name="url" >
```

v) "number"

With number input type, you can constrain the minimum and maximum values allowed by setting the min and max value. By default, the number input type only validates if the number is an integer.

Example:

```
<input type="number" name="age" min="1" max="100" >
```

vi) "range"

A slider is created using the input with it's type attribute set to the value range. The slider-thumb can be moved via mouse drag, or arrows of the keyboard.

Example:

```
<input type="range" name="price" id="price" min="10" max="100" >
```

49) Explain the advantages of HTML5 over HTML4

→ • Simple and understandable syntax

HTML5 involves extended and improved mark-up language, the syntax used in HTML5 are short and simple as compared to HTML4. Just like HTML4 you don't need to write lenghty DOCTYPE declaration. with HTML5 we can just write <!DOCTYPE html> and it would be enough for it.

• In-Built multimedia features

The most effective feature of HTML5 is in-built multimedia. with this in-built feature you no need to rely on flash and other software to add multimedia features in the webpage. Using the <video> tag and <audio> tag, we can intigrate the multimedia controls.

• Compatibility

While HTML5 is still in the process of evolution and the currently available tags are being modified and also new tags are being added. Thus we can say that HTML5 is well compatible with various specification of softwares.

• Client side Storage

In HTML-4, cache memory is used to store data on client side. This cache memory is limited and doesn't support relational storage mechanism. In HTML5, this issue has been solved via web SQL database and application cache that can be accessed via HTML5's JavaScript interface.