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HTML

1. What is HTML? Write basic structure of an HTML template.

Ans: HTML is the abbreviation of hyper text markup language. It is used for creating webpages . HTML has a structure with tags and elements which tells the browser how to display the elements in the page.

HTML basic structure:
HTML mainly has html main tag, head tag and a body tag.
Head and body of a html page comes under the mail HTML tag.
The basic structure of html is shown below:-

```
<html>
        <head>
        head tag mainly contain the title of the webpage, linking of css,
        bootstrap,javascript etc...
        </head>
     <body>
       the entire content of the html that is visible to the user is written
under
        the body tag of the html page
     </body>
</html>
```

2. Define html elements and tags. Discuss the major differences.

Ans: Html tags are used to contain the elements in a html page. For example,
<h1> displayed on webpage </h1>
<h1> is the heading tag and its closed with </h1> tag.
An HTML element is defined by a start tag, some content, and an end tag.

3. Define attributes in HTML with examples?

Ans: Html attributes are used to add extra characteristics to the elements.

in the above div, the background is formatted to yellow and the text is aligned to center these are known as html attributes.

4.What are the HTML tags used to display the data in the tabular form?

Ans: Table can be created in html using the <table> tag. Table has rows and coloums. Horizontal elements are called rows and vertical ones columns. The basic tags in a <table> are:

<tr> => Defines a row in a table.
<th> => Defines a header cell in a table.
<td> => Defines a cell in a table.
<tbody> => Used to group the body content in a table.
<thead> => Used to group the header content in a table.

5.What is an Anchor tag in HTML when it is used ?

Ans: Anchor tag is used to link one page to another. It can be used to link to other webpage, files, location or any URL.
Anchor tag is used to hypertext reference a link by using href. Ex:-
Using the code:-

go to next.

will create a link with the text ”go to next” on html page and on clicking the link will redirect to otherpage.html .

6.What are some of the common lists that can be used when designing a page?

Ans: Lists are used to list information . Lists contain one or more list elements. Different types of lists are:-
1. ordered list (ol): ordered list is used on numbered list. Ordered list can be declared as :

```
<ol>
 <li>first</li>
 <li>second</li>
</ol>
```

The op will be:
1.first
2.second

2. unordered list (ul): In an Unordered list, all the list items are marked with bullets.

```
<ul>
 <li>first</li>
 <li>second</li>
</ul>
```

The op will be:
- first
- second

7.Define forms in HTML and create a simple form ?

Ans: Html forms is a section of document which has fields like text, password, checkboxes, radiobutton, submit button etc. Html forms enables user to enter data such as email address, password, phone number, etc and sent these data to server for processing.

Example of a simple form:

```
<form>
      <h2>enter name</h2>
      <input type="text" name="name">
      <h2>enter password</h2>
      <input type="password">
      <h2>enter email</h2>
      <input type="email" name="mail">
      <input type="submit">
   </form>
```

output:

8.What is semantic HTML. Explain with example.

Ans: Semantic elements in html are elements which makes a clear meaning to the browser and developer . In the case of , etc it does not tell us anything about the content. But elements such as <form>, <table>, <article>,<footer>,<header>,<main> are semantic elements tells specifically what the contents in the tags are.

9.What is a marquee ?

Ans: An HTML marquee is a scrolling piece of text displayed either horizontally across or vertically down your webpage depending on the settings. This is created by using HTML <marquees> tag. This tag is deprecated in html5.

10.What is the use of an iframe tag ?

Ans: Iframe is used to display a webpage within a webpage. The HTML <iframe> tag defines an inline frame, hence it is also called as an Inline frame.
Example:

<iframe src="/home/joffy/Desktop/mearn/testt/tsttttttt.htm" style="height:300px;width:400px"></iframe>
this will show tsttttttt.htm in the main html page with height 300px and width 400px.

11. What is Cell Spacing and Cell Padding ?

Ans: Cell spacing specifies the space between cells . It defines the whitespace between the edges of the adjacent cells. On the other hand, cell padding specifies the space between the border of a table cell and its contents. It defines the whitespace between the cell edge and the content of the cell.

12. What is the difference between DIV and SPAN in HTML ?

Ans: element is often used as a container for other HTML elements. The element has no required attributes, but style, class and id are common. When used together with CSS, the element can be used to style blocks of content.
Example:

```
<div style="width: 85% ; margin-left: 5.3%;" class="row">
   <h3> PROFILE</h3>
</div>
```

The element <h3> will be treated as a block . And the content will be styled according to the styles provided.

 element is an inline container used to mark up a part of a text, or a part of a document. The element has no required attributes, but style, class and id are common. When used together with CSS, the element can be used to style parts of the text.
Example:

```
<h5>MEA<span style="color: red;">R</span>N STACK DEVELOPER</h5>
```

the letter R will have the color red and rest of the words will have properties of <h5>

13.Why is the Embed Tag Used in HTML ?

Ans: The <embed> tag defines a container for an external resource, such as a web page, a picture, a media player, or a plug-in application. Most of the browsers do not support java applets, activex, shockwave flash by default. <img>, <iframe>, <video>, <audio> tags can be used instead of this.

Example:

```
 <embed type="image/jpg" src="pic_trulli.jpg" width="300" height="200">

 <embed type="text/html" src="snippet.html" width="500" height="200">

 <embed type="video/webm" src="video.mp4" width="400" height="300">
```

CSS

1.Define CSS and state the major difference between HTML and CSS .

Ans: CSS (cascading style sheet) is used to style a html webpage. With css we can make responsive html webpages. Without using css we can only make basic webpages which will function but doesnt look and feel good. By using css we can change the content design according to our liking. Moreover , we can make responsive webpage which works on all devices irrepective of their device resolution. Html on the other hand is the barebone of a webpage which does not look good but functions.

2.How can you integrate CSS on a webpage?

Ans: There are three ways of inserting a style sheet:

1. ***External CSS***

With an external style sheet, you can change the look of an entire website by adding a file. Each HTML page must include a reference to the external style sheet file inside the <link> element, inside the head section.

2. ***Internal CSS / Embedded style sheets***

An internal style sheet may be used if one single HTML page has a unique style. The internal style is defined inside the <style> element, inside the head section.

Example:

```
<head>
<style>
body {
  background-color: linen;
}
h1 {
  color: maroon;
  margin-left: 40px;
}
</style>
</head>
```

3. ***Inline CSS***
An inline style may be used to apply a unique style for a single element. To use inline styles, add the style attribute to the relevant element. The style attribute can contain any CSS property.

Example:
<h1 style="color:blue;text-align:center;">This is a heading</h1>

3.What is Embedded StyleSheet ? List the advantages.

Ans: Embedded Style Sheets are used to apply same appearance to all occurrence of a specific element. These are defined in <head> element by using the <style> element.
Example:

```
<head>
<style>
body {
  background-color: linen;
}
h1 {
  color: maroon;
  margin-left: 40px;
}
</style>
</head>
```

Advantages:
- Classes can be created for use on multiple tag types in the document.
- Selector and grouping methods can be used to apply styles under complex contexts.
- No additional downloads necessary to receive style information.

4.What is a CSS selector ? Explain contextual selectors ?

Ans: CSS selectors are used to select the content you want to style. Selectors are the part of CSS rule set. CSS selectors select HTML elements according to its id, class, type, attribute etc.

Contextual Selector check the context of the class in the html tree, assigning the style to the element through a specific route, taking into account the order of depth in the tree.
Contextual Selector example

```
  table p
{
 margin-right: auto;
 width: 50%;
 height: auto;
 border-radius: 50%;
 margin-top: 8%;
 border : rgb(68, 2, 122) solid 12px;
}
```

this one is saying that you want to set the value for <p> tags that belongs to <table> tags

so whenever you have a <p> in a <table>, then it will get effected.

5.What is the RGB stream ?

Ans: The rgb() function define colors using the Red-green-blue (RGB) model. A RGB color value is specified with: rgb(red, green, blue). Each parameter defines the intensity of that color and can be an integer between 0 and 255 or a percentage value (from 0% to 100%).
For example, the rgb(0,0,255) value is rendered as blue, because the blue parameter is set to its highest value (255) and the others are set to 0.

6. Explain the CSS Box Model and its different elements.

Ans: In CSS, the term "box model" is used when talking about design and layout. The CSS box model is essentially a box that wraps around every HTML element. It consists of: margins, borders, padding, and the actual content.
Different elements in a Box model
Content - The content of the box, where text and images appear
Padding - Clears an area around the content. The padding is transparent

Border - A border that goes around the padding and content
Margin - Clears an area outside the border. The margin is transparent

Example:

```
div {
  width: 300px;
  border: 15px solid green;
  padding: 50px;
  margin: 20px;
}
```

7.What is the property that is used for controlling image-scroll ?

Ans: The overflow property controls what happens to content that breaks outside of its bounds: imagine a div in which you've explicitly set to be 200px wide, but contains an image that is 300px wide. That image will stick out of the div and be visible by default. Whereas if you set the overflow value to hidden, the image will cut off at 200px.
Different values of overflow:
visible: content is not clipped when it proceeds outside its box. This is the default value of the property
hidden: overflowing content will be hidden.
scroll: similar to hidden except users will be able to scroll through the hidden content. This property can be used to controll image-scroll.

8.What is the use of CSS Opacity ?

Ans: The opacity property in CSS specifies how transparent an element is.Opacity has a default initial value of 1 i.e, 100% opaque. Values are a number from 0 to 1 representing the opacity of the channel. When an element has a value of 0 the element is completely invisible; a value of 1 is completely opaque.

9. What is RWD?

Ans: RWD means responsive web design. Web pages can be viewed using many different devices: desktops, tablets, and phones. Your web page should look good, and be easy to use, regardless of the device. Web pages should not leave out information to fit smaller devices, but rather adapt its content to fit any device. when we use CSS and HTML to resize, hide, shrink, enlarge, or move the content to make it look good on any screen, then its called a responsive design.

10.What are the benefits of CSS sprites ?

Ans: CSS Sprites are a means of combining multiple images into a single image file for use on a website, to help with performance. Using of css sprites can also reduce the size of images loaded since a single image is used for multiple images.

11. What is the float property of CSS ?

Ans: The float CSS property places an element on the left or right side of its container, allowing text and inline elements to wrap around it. The element is removed from the normal flow of the page, though still remaining a part of the flow.
Syntax:
float: left; //The element floats to the left of its container.
float: right; //The element floats to the left of its container.
float: none; //The element does not float. This is default.

12. Explain the difference between visibility:hidden and display:none ?

Ans: ***visibility:hidden*** hides the element, but it still takes up space in the layout.
display:none removes the element from the document. It does not take up any space.

13.What is Block Formatting Context ? How does it work ?

Ans: A block formatting context is a part of a visual CSS rendering of a web page. It's the region in which the layout of block boxes occurs and in which floats interact with other elements.
Example:
overflow: auto
setting other values than the initial value of ***overflow: visible*** created a new BFC containing the float. Our now becomes a mini-layout inside our layout. Any child element will be contained inside it.

14.What is the difference between a relative , fixed , absolute and statically positioned element ?

Ans: Static- this is the default value, all elements are in order as they appear in the document.
Relative – the element is positioned relative to its normal position.
Absolute – the element is positioned absolutely to its first positioned parent.
Fixed - the element is positioned related to the browser window.

Bootstrap

1.Define Bootstrap. List the features

Ans: Bootstrap is a free and open-source CSS framework directed at responsive, mobile-first front-end web development. It contains CSS- and JavaScript-based design templates for typography, forms, buttons, navigation, and other interface components.

2.Define the key components of Bootstrap.

Ans:

- ➔ Navigation Bars.
- ➔ Button Groups.
- ➔ Labels.
- ➔ Breadcrumbs.
- ➔ Alerts & Progress Bars.
- ➔ Pagination.
- ➔ Typographic.
- ➔ Drop-down menus

3.What do you understand by Bootstrap container and classloader ?

Ans: In Bootstrap, container is used to set the content's margins dealing with the responsive behaviours of your layout. It contains the row elements and the row elements are the container of columns (known as grid system).

4.How many types of layouts are there in Bootstrap?

Ans: ***Fixed layout(.container):*** Has specific pixel width values that change its width value with the help of media queries.
fluid layout(.container-fluid): It is used when you want to create a app that is 100% wide and use up all the width of the screen.

5.Why do we use Jumbotron in Bootstrap?

Ans: Jumbotron is lightweight, flexible component for showcasing hero unit style content. It can optionally extend the entire viewport to showcase key marketing messages on your site.

6.When will you use <code> tag and <pre> tag?
Ans: The <code> tag is used to define a piece of computer code. The content inside is displayed in the browser's default monospace font.
The <pre> tag defines preformatted text. Text in a <pre> element is displayed in a fixed-width font, and the text preserves both spaces and line breaks. The text will be displayed exactly as written in the HTML source code.

7.What are responsive utility classes in Bootstrap?Give examples.

Ans: For faster mobile-friendly development, use these utility classes for showing and hiding content by device via media query. Also included are utility classes for toggling content when printed.

.visible-xs
Extra small (less than 768px) visible
.visible-sm
Small (up to 768 px) visible
.visible-md
Medium (768 px to 991 px) visible
.visible-lg
Larger (992 px and above) visible
.hidden-xs
Extra small (less than 768px) hidden
.hidden-sm
Small (up to 768 px) hidden
.hidden-md
Medium (768 px to 991 px) hidden
.hidden-lg
Larger (992 px and above) hidden

8.Explain bootstrap alerts and thumbnails?

Ans: You can add a basic alert by creating a wrapper and adding a class of .alert and one of the four contextual classes.(e.g., .alert-success, .alert-info, .alert-warning, .alert-danger).

1. Bootstrap's thumbnails are used to show linked images in grids with very minimum required markup.
2. A thumbnail is created using class .thumbnail within the element <a>.
3. The column grids are created using class .col-sm-* and .col-md-* .

9. What is Bootstrap breadcrumb?

Ans: A breadcrumb navigation provide links back to each previous page the user navigated through, and shows the user's current location in a website.

10. What is pagination in bootstrap and how are they classified?

Ans: Bootstrap pagination is a component used to indicate the existence of a series of related content across multiple pages and enables navigation across them.

11.What is Normalize in Bootstrap?

Ans: Bootstrap is a front-end framework that includes lots of CSS and JavaScript components, a grid system, typography, and many other robust features to help you get started coding a website more quickly. It also already includes Normalize. css in addition to its other code.

12 How navbar works in Bootstrap and how can you create one?

Ans: With Bootstrap, a navigation bar can extend or collapse, depending on the screen size. A standard navigation bar is created with <nav class="navbar navbar-default">

13 What is the grid system and grid classes in Bootstrap?

Ans: The Bootstrap Grid System is used for layout, specifically Responsive Layouts.The Grid is made up of groupings of Rows & Columns inside 1 or more Containers. The Bootstrap Grid can be used alone, without the Bootstrap JavaScript and other CSS Components

JavaScript

1. Define Java script. Enumerate the differences between Java and JavaScript?

Ans: JavaScript is a dynamic computer programming language. most commonly used as a part of web pages, whose implementations allow client-side script to interact with the user and make dynamic pages. JavaScript code is run on a browser only, while Java creates applications that run in a virtual machine or browser. Java is an object-oriented programming language, and JavaScript is specifically an OOP scripting language.

2 What are JavaScript Data Types?

Ans:

Primitive : string, number, Boolean, undefined,null
Non primitive: object, array,regExp

3. What is 'this' keyword in JavaScript?

Ans: The JavaScript this keyword refers to the object it belongs to. ... In a function, this refers to the global object. In a function, in strict mode, this is undefined . In an event, this refers to the element that received the event. Methods like call() , and apply() can refer this to any object

4. What are all types of Pop-up boxes available in JavaScript?

Ans:

JavaScript has three kind of popup boxes:
Alert box,
Confirm box, and Prompt box.

5 What is the difference between === operator and == operator?

Ans: The main difference between "==" and "===" operator is that formerly compares variable by making type correction e.g. if you compare a number with a string with numeric literal, == allows that, but === doesn't allow that, because it not only checks the value but also type of two variable, if two variables are not of the same type "===" return false, while "==" return true.

6. Explain what is pop () and push()method in JavaScript?

Ans: A stack has two main operations that occur only at the top of the stack: push and pop. The push operation places an element at the top of stack whereas the pop operation removes an element from the top of the stack

7. Explain try n catch concept in javascript string using examples.

Ans: The try statement allows you to define a block of code to be tested for errors while it is being executed.

The catch statement allows you to define a block of code to be executed, if an error occurs in the try block.

```
let x=50;
const y=70;
try{
y=x;
console.log(y);
}
catch(error){
console.log(error.message)

}
```

Output:
Assignment to constant variable.

8. Explain error and exception handling with examples.

Ans: Error handling is the process of catching errors raised by your program and then taking appropriate action. If you would handle errors properly then it may lead to many unforeseen consequences

Exception handling ensures that the flow of the program doesn't break when an exception occurs. For example, if a program has bunch of statements and an exception occurs mid way after executing certain statements then the statements after the exception will not execute and the program will terminate abruptly.

9.Write a program to reverse a string.

Ans: Program:

```
var str="joffy"
revstring=str.split('').reverse().join('')
console.log(revstring);
```

output:
yffoj

10.Write a JavaScript program to find the Armstrong numbers of 3 digits.

Ans: Program

```
sum=0
for(i=100;i<999;i++){
  arm(i)

}
function arm(i){
   temp=i
   while(i>0){
      rem=i%10
      sum+=rem**3
      i=Math.floor(i/10)
```

```
        }

if(sum==temp){
   console.log(sum);
   sum=0;
}
else{
   sum=0;
}
}
```

output:

```
153
370
371
407
```

11.Write a JavaScript program to construct the following pattern, using a nested for loop.

```
*
**
***
****
```

Ans: Program

```
for(i=0;i<4;i++){
   var star=""
   for(j=0;j<=i;j++){
      star+="* "

   }
   console.log(star);
}
```

output:

*
**
***
****

12. Write a JavaScript program which compute, the average marks 5students students of your choice Then, this average is used to determine the corresponding grade.

Ans: question not clear