Module-3 Decorative Properties in CSS)

1. How to apply a background color to a specific element.

   Ans. The background-color property is used to specify the background color of the element.

   Example

```
<style>
h1{
backgrounf-color: #ff00ff;
}
P{
background-color: #f0f0f0;
}
</style>
```

2. Which property is used for controlling image repetition in the background?

   Ans. The background-repeat property is responsible for controlling the image repetition. Using this property, we can repeat an image horizontally, vertically, or both. It has the following different values:

   - repeat: it repeats the image horizontally and vertically
   - repeat-x: it repeats the image horizontally
   - repeat-y: it repeats the image vertically
   - no-repeat: it does not repeat the image.

   Example

```
<style>
div {
background-image:url(errorsea.jpeg);
background-repeat:no-repeat;
}
</style>
```

3. How to control the image positions using CSS in the background.

   Ans. The background-position property is responsible for controlling the position of the background image. We can set the following values.

   - Center: set image at the center position
   - Bottom: set image at the bottom position
   - Top: set image at the top position
   - Left: set image at the left position
   - Right: set image at the right position

   Example

```
<style>
div {
background-image:url(errorsea.jpeg);
background-repeat:no-repeat;
background-position:center;
}
</style>
```

4. Enlist the various fonts' attributes?

   They are:

   - Font-style
   - Font-variant
   - Font-weight
   - Font-size/line-height
   - Font-family
   - Caption
   - Icon

5. Compare RGB values with Hexadecimal color codes ?

   A color can be specified in two ways:

   - A color is represented by 6 characters i.e. hexadecimal color coding. It is a combination of numbers and letters and is preceded by #. e.g.: g {color: #00cjfi}
   - A color is represented by a mixture of red, green and blue. The value of a color can also be specified. e.g.: rgb(r,g,b): In this type the values can be in between the integers 0 and 255. rgb(r%,g%,b%): red, green and blue percentage is shown.

6. What is VH/VW (viewport height/ viewport width) in CSS?

   It's a CSS unit used to measure the height and width in percentage with respect to the viewport. It is used mainly in responsive design techniques. The measure VH is equal to 1/100 of the height of the viewport. If the height of the browser is 1000px, 1vh is equal to 10px. Similarly, if the width is 1000px, then 1 vw is equal to 10px.

7. How do you specify units in the CSS?. What are the different ways to do it?

   There are different ways to specify units in CSS like px, em, pt, percentage (%). px(Pixel) gives fine-grained control and maintains alignment because 1 px or multiple of 1 px is guaranteed to look sharp. px is not cascade. em maintains relative size. you can have responsive fonts. Em, will cascade 1em is equal to the current font-size of the element or the browser default. If u sent font-size to 16px then 1em = 16px. The common practice is to set default body font-size to 62.5% (equal to 10px).

   pt(point) are traditionally used in print. 1pt = 1/72 inch and it is a fixed-size unit.

   %(percentage) sets font-size relative to the font size of the body. Hence, you have to set the font-size of the body to a reasonable size.

6. How will you add border images to an HTML element?
   Answer: We can set the image to be used as the border-image alongside an element by using the property of CSS “border-image”.
   Example:

```
#borderimg {

   border: 15px solid transparent;

   padding: 20px;

   border-image: url(border.png) 30 round;

}
```

7. Explain Box shadow property.

   The box-shadow property in CSS is for putting shadows on elements (sometimes referred to as “drop shadows”, ala Photoshop/Figma).

```
.card {
  box-shadow: 0 3px 10px rgb(0 0 0 / 0.2);
}
```

   That syntax is:

```
box-shadow: [horizontal offset] [vertical offset] [blur radius] [optional spread radius] [color];
```

   1. The horizontal offset (required) of the shadow, positive means the shadow will be on the right of the box, a negative offset will put the shadow on the left of the box.
   2. The vertical offset (required) of the shadow, a negative one means the box-shadow will be above the box, a positive one means the shadow will be below the box.
   3. The blur radius (required), if set to 0 the shadow will be sharp, the higher the number, the more blurred it will be, and the further out the shadow will extend. For instance a shadow with 5px of horizontal offset that also has a 5px blur radius will be 10px of total shadow.
   4. The spread radius (optional), positive values increase the size of the shadow, negative values decrease the size. Default is 0 (the shadow is same size as blur).
   5. Color (required) – takes any color value, like hex, named, rgba or hsla. If the color value is omitted, box shadows are drawn in the foreground color (text color). But be aware, older WebKit browsers (pre Chrome 20 and Safari 6) ignore the rule when color is omitted.

   Using a semi-transparent color like rgba(0, 0, 0, 0.4) is most common, and a nice effect, as it doesn’t completely/opaquely cover what it’s over, but allows what’s underneath to show through a bit, like a real shadow.

Module-5 Styling with CSS

1. Which property is use to give rounded corners in CSS3?

Answer:

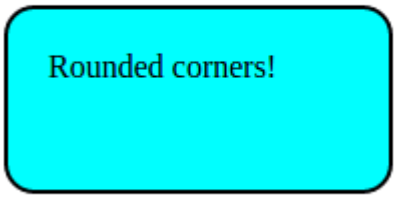
The 'border-radius' property is used to give rounded corners in CSS3. The rounded corners can be given to any element using this property.

Example:

```
<!DOCTYPE html>
<html>
   <head>
      <style>
         #rcorners {
            border-radius: 15px;
            border: 2px solid #000000;
            background: #00FFFF;
            padding: 20px;
            width: 150px;
            height: 50px;
         }
      </style>
   </head>
   <body>
      <p>Rounded corners for an element with a background color and border:</p>
      <p id="rcorners">Rounded corners!</p>
   </body>
</html>
```

Output:

Rounded corners for an element with a background color and border:



2. How to style table in CSS?

Writing the HTML

Let's write some boilerplate HTML code for the table.

```
<table class="styled-table">
    <thead>
        <tr>
            <th>Name</th>
            <th>Points</th>
        </tr>
    </thead>
    <tbody>
        <tr>
            <td>Dom</td>
            <td>6000</td>
        </tr>
        <tr class="active-row">
            <td>Melissa</td>
            <td>5150</td>
        </tr>
        <!-- and so on... -->
    </tbody>
</table>
```

Notice we have two classes:

- .styled-table so we don't tamper with every <table> on the site
- .active-row which will be the "active" row - this class is used to highlight a specific row and will get it's own CSS as we'll see soon

Styling the table

Let's target the main <table> element first:

```
.styled-table {
    border-collapse: collapse;
```

```
    margin: 25px 0;
    font-size: 0.9em;
    font-family: sans-serif;
    min-width: 400px;
    box-shadow: 0 0 20px rgba(0, 0, 0, 0.15);
}
```

Most of these are self explanatory but let's have a look at the main ones:

- box-shadow to add a subtle transparent shadow around the table
- border-collapse to ensure there is no space between the cell borders

Styling the header

For the header, we can simply change the background color and apply some basic styles to the text:

```
.styled-table thead tr {
    background-color: #009879;
    color: #ffffff;
    text-align: left;
}
```

Moving onto the table cells

Let's space things out a bit:

```
.styled-table th,
.styled-table td {
    padding: 12px 15px;
}
```

And the table rows...

For these, we want to do 3 things:

1. Add a bottom border to each row for separation
2. Add a lighter background to every second row to help readability
3. Add a dark border to the very last row to signify the end of the table

```
.styled-table tbody tr {
    border-bottom: 1px solid #dddddd;
}

.styled-table tbody tr:nth-of-type(even) {
    background-color: #f3f3f3;
}

.styled-table tbody tr:last-of-type {
    border-bottom: 2px solid #009879;
}
```

Module-6 Advanced features of CSS

1. Define float property of CSS?

   By float property, the image can be moved to the right or the left along with the text to be wrapped around it. Elements before this property is applied do not change their properties.

2. What is z-index and how it is used?

   Ans. The z-index is used for ordering the different elements that can overlap each other. Its default value is zero. We can assign the positive as well as negative numbers to z-index.
   The element with higher z-index has a higher position than other elements. The z-index can have the following values:

   - Auto: sets the order to its parent
   - Number: sets the order of the element
   - Initial: set for a default value
   - Inherit: inherit the property from its parent

3. What is CSS Flexbox
   CSS3 Flexible boxes also known as CSS Flexbox is a new layout mode in CSS3.
   The CSS3 flexbox is used to make the elements behave predictably when they are used with different screen sizes and different display devices. It provides a more efficient way to layout, align and distribute space among items in the container.
   It is mainly used to make CSS3 capable to change its item's width and height to best fit all available spaces. It is preferred over the block model.
   The CSS3 flexbox contains flex containers and flex items.

4. To use flexbox we define a container as a flexbox. What is the CSS to do this?
   Ans: Display:flex;

5. Flex-direction allows you to do what?
   Ans: Define the direction of how elements are positioned based on either row or column

6. Flex-wrap allows you to do what?
   Ans: Define how elements will wrap when the browser width is changed
7. Justify-content allows you to do what?
   Ans: Defines how to position elements horizontally

8. Align-items allows you to do what?
   Ans: Define how to position elements vertically

9. Can you name the four types of @media properties?

   The four types of @media properties are:
   - All → It's the default property. Used for all media-type devices.
   - Screen → Used for computer screen, mobile screen.
   - Print → Used for printers.
   - Speech → Used for screen readers.

10. What does * { box-sizing: border-box; } do? What are its advantages?

It makes every element in the document include the padding and border in the element’s inner dimension for the height and width computation. In box-sizing: border-box, The height of an element is now calculated by the content's height + vertical padding + vertical border width.

The width of an element is now calculated by the content's width + horizontal padding + horizontal border width.

11. Different Box Sizing Property?

The box-sizing CSS property sets how the total width and height of an element are calculated.

Content-box: The default width and height values apply to the element's content only. The padding and border are added to the outside of the box.

Padding-box: Width and height values apply to the element's content and its padding. The border is added to the outside of the box. Currently, only Firefox supports the padding-box value.

Border-box: Width and height values apply to the content, padding, and border.

12. Explain CSS position property?

Absolute

To place an element exactly where you want to place it. absolute position is actually set relative to the element's parent. if no parent is available then the relative place to the page itself (it will default all the way back up to the element).

Relative

"Relative to itself". Setting position: relative; on an element and no other positioning attributes, it will no effect on its positioning. It allows the use of z-index on the element and it limits the scope of absolutely positioned child elements. Any child element will be absolutely positioned within that block.

Fixed

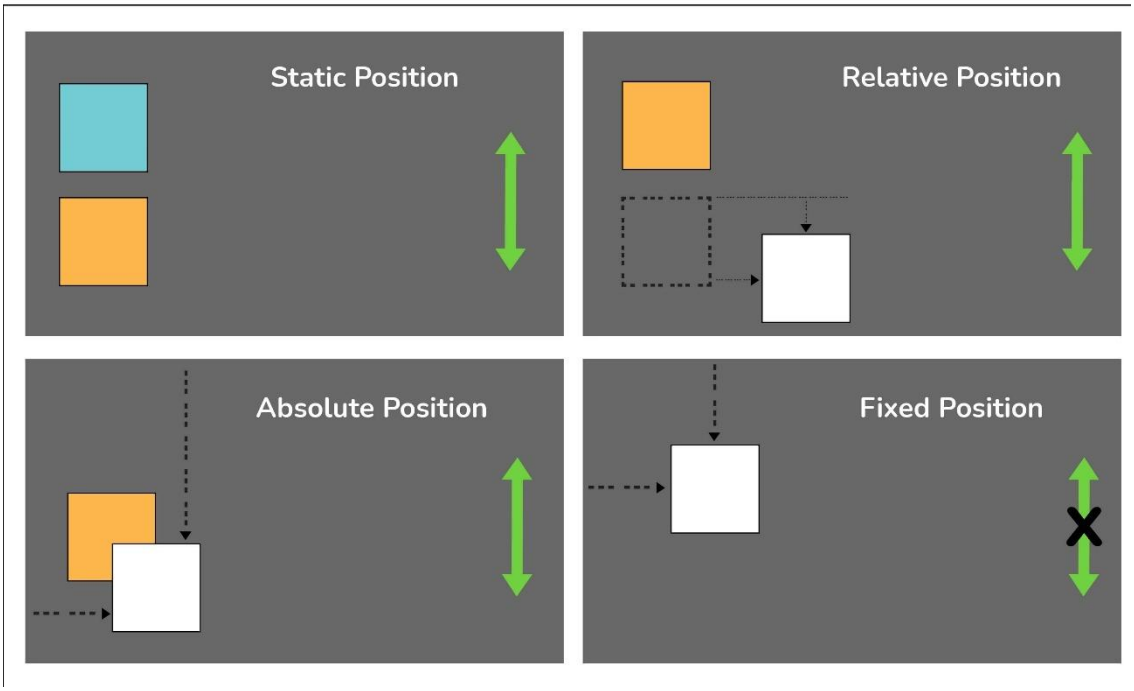
The element is positioned relative to the viewport or the browser window itself. viewport doesn't change if you scroll and hence the fixed element will stay right in the same position.

Static

Static default for every single page element. The only reason you would ever set an element to position: static is to forcefully-remove some positioning that got applied to an element outside of your control.

Sticky

Sticky positioning is a hybrid of relative and fixed positioning. The element is treated as relative positioned until it crosses a specified threshold, at which point it is treated as fixed positioned.



Module-7 Transition &Transformations with CSS

1. What do you know about CSS3 2D Transforms?

Answer:

CSS3 2D Transforms is an effect that lets an element change shape, size and position. It allows you to rotate, translate, scale and skew elements.

Following are 2D transformation methods:

- translate() - moves an element from its current position according to the given X-axis and the Y-axis parameters.
- rotate() - rotates an element clockwise or counter-clockwise according to a given degree.
- Scale() - increases or decreases the size of an element according to the given width and height.
- SkewX() - skews an element along the X-axis by the given angle.
- SkewY() - skews an element along the Y-axis by the given angle.
- skew() - kews an element along the X and Y-axis by the given angles.
- Matrix() - combines all the 2D transform methods into one.

Example:

```
div
{
   -ms-transform: rotate(7deg); /* IE 9 */
   -webkit-transform: rotate(7deg); /* Chrome, Safari, Opera */
   transform: rotate(7deg);
}
```

2. What do you know about CSS3 3D Transforms?

Answer:

CSS3 allows you to format your elements using 3D transformation. You can move elements to x-axis, y-axis and z-axis using 3D transforms.

following are the important 3D transformation methods:

- rotateX() - rotates an element around its X-axis at a given degree.

- rotateY() - rotates an element around its Y-axis at a given degree.
- rotateZ() - rotates an element around its Z-axis at a given degree.

Example:

```
div
{
   -webkit-transform: rotateX(150deg); /* Safari */
   transform: rotateX(150deg);
}
```

3. What is the purpose of Transitions property in CSS3?

Answer:

Transitions in CSS3 allows you to change property values from one value to another, over a given duration.

For creating a transitions effect, you need to specify two things: first thing is the CSS property that you want to add an effect to and second this is duration of the effect.

In CSS3, the transition property is a shorthand property for the four transition properties: transition-property, transition-duration, transition-timing-function, and transition-delay.

The transition-delay property specifies when the transition effect will start.

The transition-duration property specifies how many seconds (s) or milliseconds (ms) a transition effect takes to complete.

The transition-property property specifies the name of the CSS property the transition effect is for.

The transition-timing-function property specifies the speed curve of the transition effect.

Always specify the transition-duration property, otherwise the duration is 0, and the transition will have no effect.

Module-8 Animation in CSS

1. Explain CSS3 Animations?

   CSS animation lets an element gradually change from one style to another without using JavaScipt/jQuery. It lets move elements around the screen, makes them spin around, change color, size, shape, and much more. To use CSS animation, you need to write animations using keyframes which basically holds what styles the element will have at certain times.

   Example - Here, the rectangle background color changes from Red to Green

```
/* The animation code */
@keyframes animate {
  from {background-color: red;}
  to {background-color: green;}
}

/* The element to apply the animation to */
div {
  width: 100px;
  height: 50px;
  background-color: red;
  animation-name: animate;
  animation-duration: 3s;
}
```

2. Which property is use to make particular section rotate for certain degrees?

   Answer:

   The 'transform' property is used to make particular section rotate for certain degrees.

   For example: 'transform' as 'rotate(45 deg)', this will make your section looks like a diagonal one.

   The transform property is used to apply a 2D or 3D transformation to an element.

   This property allows you to rotate, scale, move and skew the elements.