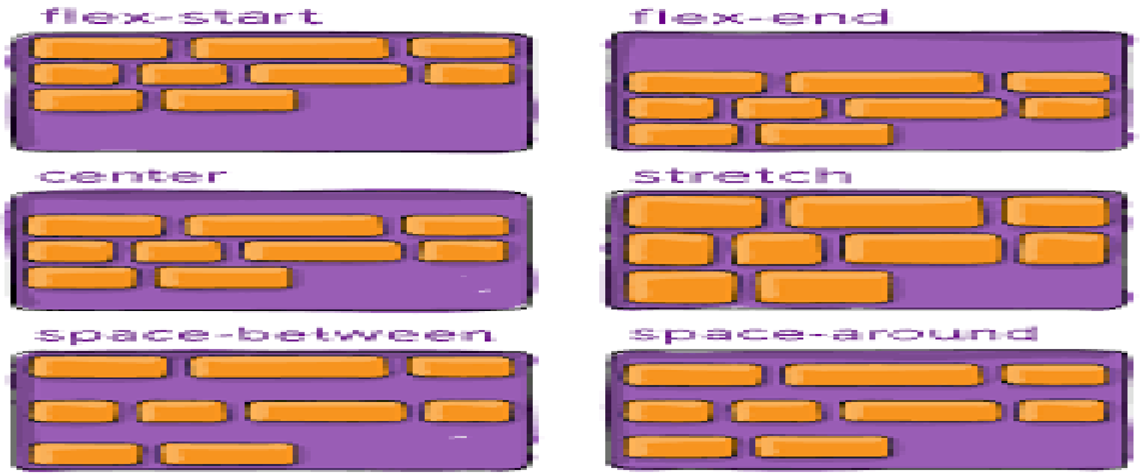
Module 8-Responsive CSS Layout

8-1 Module Introduction and website layout

8-2 Flexbox, flex direction justify content align items

CSS Flexbox Layout Module:



Before the Flexbox Layout module, there were four layout modes:

- Block, for sections in a webpage
- Inline, for text
- Table, for two-dimensional table data
- Positioned, for explicit position of an element

The Flexible Box Layout Module, makes it easier to design flexible responsive layout structure without using float or positioning.

Link: https://www.w3schools.com/cssref/css3_pr_justify-content.asp

The `justify-content` property aligns the flexible container's items when the items do not use all available space on the main-axis (horizontally).

```
justify-content: flex-start|flex-end|center|space-between|space-around|space-evenly|initial|inherit;
```

```
            justify-content: center;
            justify-content: flex-end;
            justify-content: left;
            justify-content: right;
            justify-content: space-around;
            justify-content: space-between;
            justify-content: space-evenly;
```

Link: https://www.w3schools.com/cssref/css3_pr_align-items.asp

The `align-items` property specifies the default alignment for items inside the flexible container. (vertically)

`align-items: stretch|center|flex-start|flex-end|baseline|initial|inherit;`

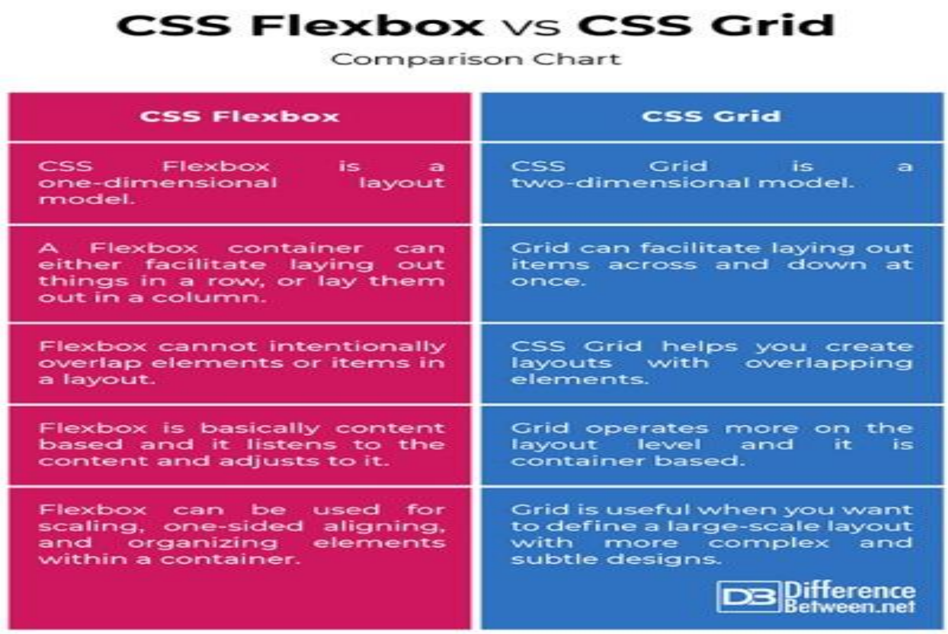
```
            align-items: flex-end;
            align-items: flex-start;
            align-items: baseline;
            align-items: stretch;
            align-items: center;
```

flex-grow: https://www.w3schools.com/cssref/css3_pr_flex-grow.asp

`flex-grow: *number*|initial|inherit;`

8-3 Create login form and flexible nav using flexbox

8-4 CSS Grid layout template columns grid gap



CSS Flexbox vs CSS Grid

Comparison Chart

CSS Flexbox	CSS Grid
CSS Flexbox is a one-dimensional layout model.	CSS Grid is a two-dimensional model.
A Flexbox container can either facilitate laying out things in a row, or lay them out in a column.	Grid can facilitate laying out items across and down at once.
Flexbox cannot intentionally overlap elements or items in a layout.	CSS Grid helps you create layouts with overlapping elements.
Flexbox is basically content based and it listens to the content and adjusts to it.	Grid operates more on the layout level and it is container based.
Flexbox can be used for scaling, one-sided aligning, and organizing elements within a container.	Grid is useful when you want to define a large-scale layout with more complex and subtle designs.

DB Difference Between.net

The CSS Grid Layout Module offers a grid-based layout system, with rows and columns, making it easier to design web pages without having to use floats and positioning.

```
        display: grid;
        grid-template-columns: 200px 200px 200px;
        grid-template-columns: repeat(3, 200px);
        grid-template-columns: repeat(3, 1fr);
        grid-template-columns: repeat(3, 25%);
        grid-template-columns: repeat(4, 1fr) 100px;
        grid-template-columns: repeat(4, 1fr) 2fr;
        grid-gap: 10px 20px;
```

You can adjust the gap size by using one of the following properties:

- grid-column-gap
- grid-row-gap
- grid-gap

8-5 Create calendar using css grid and flex box

8-6 Explore Responsiveness using Media query and flexbox

Link:

1. https://www.w3schools.com/css/css3_mediaqueries.asp
2. https://www.w3schools.com/css/css_rwd_mediaqueries.asp

CSS3 Introduced Media Queries

```
flex-wrap: wrap;
```

or:

```
      @media (max-width: 700px) {
        .food {
          background-color: yellowgreen;
        }
        .menu-container {
          flex-direction: column;
        }
      }
      @media (min-width: 900px) {
        .food {
          background-color: rgb(50, 78, 205);
        }
      }
```

Media queries in CSS3 extended the CSS2 media types idea: Instead of looking for a type of device, they look at the capability of the device.

Media queries can be used to check many things, such as:

- width and height of the viewport
- width and height of the device
- orientation (is the tablet/phone in landscape or portrait mode?)
- resolution

Using media queries are a popular technique for delivering a tailored style sheet to desktops, laptops, tablets, and mobile phones (such as iPhone and Android phones).

What is Responsive Web Design?

```
flex-wrap: wrap;
```

Responsive web design makes your web page look good on all devices.

Responsive web design uses only HTML and CSS.

Responsive web design is not a program or a JavaScript.

8-7 Create a Photo Album using relative position and flexbox

8-8 Apply transition transform in your photo album

Important Keyword:

1. Position
2. Over Flow
3. Transform

4. Transition

Transform property allows you to visually manipulate an element by -> skewing, rotating, translating, or scaling.

Transitions allow you to change property values smoothly, over a given duration.

Overflow:

The CSS `overflow` property controls what happens to content that is too big to fit into an area.

The `overflow` property specifies whether to clip the content or to add scrollbars when the content of an element is too big to fit in the specified area.

The `overflow` property has the following values:

- `visible` - Default. The overflow is not clipped. The content renders outside the element's box
- `hidden` - The overflow is clipped, and the rest of the content will be invisible
- `scroll` - The overflow is clipped, and a scrollbar is added to see the rest of the content
- `auto` - Similar to `scroll`, but it adds scrollbars only when necessary

```
position: static|absolute|fixed|relative|sticky|initial|inherit;
```

8-9 All CSS properties, everything you need to know about CSS

Link: https://www.tutorialrepublic.com/css-reference/css3-properties.php

8-10 Responsive CSS Layout Summary