Grid Layout

- CSS grid layout or CSS grid is a technique in Cascading Style Sheets that allows web developers to create complex responsive web design layouts more easily and consistently across browsers.
- Grid is basically a two-dimensional system that allows us to work comfortably.
- CSS grid layout replaces float layout.
- Fast & Clean code.
- No need of CSS Frameworks.
- In order to create a grid container we have to use "display:grid" inside the parent element.
- Use Mozilla Firefox for seeing us a "grid lines".
- In the grid layout you have two axes available to align things against – the block axis(Vertically) and the inline axis(Horizontally).
- We work with Grid Layout by applying CSS rules both to a parent element (which becomes the Grid Container) and to that element's children (which become Grid Items).

Grid System Terminology

Every Grid System has following terminology: -

a) Grid Container -- Main / Parent Element.
b) Grid Items -- Nested Elements.
c) Grid Cell -- Sigle Element.
d) Grid lines (Horizontally & Vertically).
e) Gutter -- Spacing between each element (Horizontally & Vertically).
f) Grid row -- Container of all horizontal elements.
g) Grid Column -- Container of all vertical elements.
h) Grid Area -- Gapping between Rows & Columns.
i) Grid Tracks --
j) Grid Axis --

Flexbox Vs Grid

Flexbox

- CSS Flexbox Layout is that flexbox was designed for layout in one dimension - either a row or a column.
- Flexbox is old compared to grid in CSS3.
- Less consistent than grids.
- Flexbox is content based.
- Most of the layout (beyond the very basics) happen on the children.
- More browser support.

Grid

- Grid was designed for two-dimensional layout - rows, and columns at the same time.
- CSS3 Grids are new.
- More consistent.
- Grid is container based.
- Grid is mostly defined on the parent element.
- Less browser support.

Features of CSS3 Grids

1 - Fixed & Flexible tracks
2 - Item placement
3 - Creation of additional tracks to hold content
4 - Alignment control
5 - Control of overlapping content

Grid Properties

a) - Grid Creating Properties

For creating grids we have two properties: -
- o grid-template-columns
- o grid-template-rows

grid-template-columns

For child elements width we use "grid-template-columns".

Example

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <meta http-equiv="X-UA-Compatible" content="ie=edge">
    <title>Document</title>
    <style>
      .container
      {
          background-color: silver;
          width: 700px;
          margin: 70px 0 0 50px;
          display: grid;
          grid-template-columns: 450px 200px;
      }
      .items1
      {
          background-color: orangered;
      }
      .items2
      {
```

```
        background-color: blue;
      }
      .items3
      {
        background-color: green;
      }
      .items4
      {
        background-color: yellow;
      }
      .items5
      {
        background-color: blueviolet;
      }
      .items6
      {
        background-color: magenta;
      }
    </style>
  </head>
  <body>

    <div class="container">
      <div class="item items1">Div1</div>
      <div class="item items2">Div2</div>
      <div class="item items3">Div3</div>
      <div class="item items4">Div4</div>
      <div class="item items5">Div5</div>
      <div class="item items6">Div6</div>
    </div>

  </body>
</html>
```

Example -- Three Columns

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <meta http-equiv="X-UA-Compatible" content="ie=edge">
    <title>Document</title>
    <style>
      .container
      {
          background-color: silver;
          width: 700px;
          margin: 70px 0 0 50px;
          display: grid;
          grid-template-columns: 250px 200px 100px;
      }
      .items1
{
          background-color: orangered;
      }
      .items2      {
          background-color: blue;
      }
      .items3
      {
          background-color: green;
      }
      .items4
      {
          background-color: yellow;
      }
      .items5
      {
          background-color: blueviolet;
      }
```

```
        .items6
        {
            background-color: magenta;
        }
    </style>
</head>
<body>

    <div class="container">
        <div class="item items1">Div1</div>
        <div class="item items2">Div2</div>
        <div class="item items3">Div3</div>
        <div class="item items4">Div4</div>
        <div class="item items5">Div5</div>
        <div class="item items6">Div6</div>
    </div>

</body>
</html>
```

Example -- "auto" fill empty space automatically

- "auto" automatically fills the empty space inside the grid container.
- Those elements fills empty space on which we apply "auto".
- CSS Grid Layout introduces a new unit of length called fr, which is short for "fraction".

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <meta http-equiv="X-UA-Compatible" content="ie=edge">
    <title>Document</title>
    <style>
        .container       {
            background-color: silver;
            width: 700px;
            margin: 70px 0 0 50px;
            display: grid;
            grid-template-columns: 250px 200px auto;
        }
        .items1       {
            background-color: orangered;
        }
        .items2
        {
            background-color: blue;
        }
        .items3
        {
            background-color: green;
        }
        .items4
        {
            background-color: yellow;
        }
```

```
        .items5
        {
            background-color: blueviolet;
        }
        .items6
        {
            background-color: magenta;
        }
    </style>
</head>
<body>

    <div class="container">
        <div class="item items1">Div1</div>
        <div class="item items2">Div2</div>
        <div class="item items3">Div3</div>
        <div class="item items4">Div4</div>
        <div class="item items5">Div5</div>
        <div class="item items6">Div6</div>
    </div>

</body>
</html>
```

Example -- "auto" fill empty space

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <meta http-equiv="X-UA-Compatible" content="ie=edge">
    <title>Document</title>
    <style>
      .container      {
         background-color: silver;
         width: 700px;
         margin: 70px 0 0 50px;
         display: grid;
         grid-template-columns: 250px auto 100px;
      }
      .items1
{
         background-color: orangered;
      }
      .items2
      {
         background-color: blue;
      }
      .items3
      {
         background-color: green;
      }
      .items4
      {
         background-color: yellow;
      }
      .items5
      {
         background-color: blueviolet;
      }
```

```
      .items6
      {
          background-color: magenta;
      }
   </style>
</head>
<body>

   <div class="container">
      <div class="item items1">Div1</div>
      <div class="item items2">Div2</div>
      <div class="item items3">Div3</div>
      <div class="item items4">Div4</div>
      <div class="item items5">Div5</div>
      <div class="item items6">Div6</div>
   </div>

</body>
</html>
```

Example

```html
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <meta http-equiv="X-UA-Compatible" content="ie=edge">
    <title>Document</title>
    <style>
      .container     {
          background-color: silver;
          width: 700px;
          margin: 70px 0 0 50px;
          display: grid;
          grid-template-columns: 25% 25% auto;
      }
      .items1
{
          background-color: orangered;
      }
      .items2
      {
          background-color: blue;
      }
      .items3
      {
          background-color: green;
      }
      .items4
      {
          background-color: yellow;
      }
      .items5
      {
          background-color: blueviolet;
      }
```

```
      .items6
      {
          background-color: magenta;
      }
    </style>
</head>
<body>

    <div class="container">
        <div class="item items1">Div1</div>
        <div class="item items2">Div2</div>
        <div class="item items3">Div3</div>
        <div class="item items4">Div4</div>
        <div class="item items5">Div5</div>
        <div class="item items6">Div6</div>
    </div>

</body>
</html>
```

Example -- only "auto" -- For equal width columns

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <meta http-equiv="X-UA-Compatible" content="ie=edge">
    <title>Document</title>
    <style>
        .container      {
            background-color: silver;
            width: 700px;
            margin: 70px 0 0 50px;
            display: grid;
            grid-template-columns: auto auto auto ;
        }
        .items1
{

            background-color: orangered;
        }
        .items2
        {
            background-color: blue;
        }
        .items3
        {
            background-color: green;
        }
        .items4
        {
            background-color: yellow;
        }
        .items5
        {
            background-color: blueviolet;
        }
```

```
      .items6
      {
         background-color: magenta;
      }
   </style>
</head>
<body>

   <div class="container">
      <div class="item items1">Div1</div>
      <div class="item items2">Div2</div>
      <div class="item items3">Div3</div>
      <div class="item items4">Div4</div>
      <div class="item items5">Div5</div>
      <div class="item items6">Div6</div>
   </div>

</body>
</html>
```

Example - We can also use "px / % / auto"

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <meta http-equiv="X-UA-Compatible" content="ie=edge">
    <title>Document</title>
    <style>
        .container      {
            background-color: silver;
            width: 700px;
            margin: 70px 0 0 50px;
            display: grid;
            grid-template-columns: 25% 250px auto;
        }
        .items1
{

            background-color: orangered;
        }
        .items2
        {
            background-color: blue;
        }
        .items3
        {
            background-color: green;
        }
        .items4
        {
            background-color: yellow;
        }
        .items5
        {
            background-color: blueviolet;
        }
```

```
      .items6
      {
          background-color: magenta;
      }
   </style>
</head>
<body>

   <div class="container">
      <div class="item items1">Div1</div>
      <div class="item items2">Div2</div>
      <div class="item items3">Div3</div>
      <div class="item items4">Div4</div>
      <div class="item items5">Div5</div>
      <div class="item items6">Div6</div>
   </div>

</body>
</html>
```

Fractional Unit

- CSS Grid Layout introduces a new unit of length called fr, which is short for "fraction".
- MDN defines the fr unit as a unit which represents a fraction of the available space in the grid container. If we want to rewrite our previous grid to have three equal-width columns, we could change our CSS to use the fr unit.
- With CSS Grid Layout, we get a new flexible unit: the Fr unit. Fr is a fractional unit and 1fr is for 1 part of the available space.
- Fractional unit only works for rows & columns.
- Fr units can't be used for the min value, but they can absolutely be used for the max value.
- fr is a fractional unit and 1fr is for 1 part of the available space.
- If we apply "fr" on only one element then it fills the empty space.
- or,
- If we can mix "fr" values with fixed and percentage values. The fr values will be divided between the space that's left after what's taken by the other values.
- fr divides the columns into equal width.

Example

```
<!DOCTYPE html>
<html lang="en">
<head>
   <meta charset="UTF-8">
   <meta name="viewport" content="width=device-width, initial-scale=1.0">
   <meta http-equiv="X-UA-Compatible" content="ie=edge">
   <title>Document</title>
   <style>
     .container     {
        background-color: silver;
        width: 700px;
        margin: 70px 0 0 50px;
        display: grid;
        grid-template-columns: 1fr auto auto ;

     }
```

```
    .items1        {
        background-color: orangered;
    }
    .items2        {
        background-color: blue;
    }
    .items3        {
        background-color: green;
    }
    .items4        {
        background-color: yellow;
    }
    .items5        {
        background-color: blueviolet;
    }
    .items6        {
        background-color: magenta;
    }
  </style>
</head>
<body>

  <div class="container">
     <div class="item items1">Div1</div>
     <div class="item items2">Div2</div>
     <div class="item items3">Div3</div>
     <div class="item items4">Div4</div>
     <div class="item items5">Div5</div>
     <div class="item items6">Div6</div>
  </div>
</body>
</html>
```

Example

```html
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <meta http-equiv="X-UA-Compatible" content="ie=edge">
    <title>Document</title>
    <style>
        .container       {
            background-color: silver;
            width: 700px;
            margin: 70px 0 0 50px;
            display: grid;
            grid-template-columns: 1fr 1fr 1fr;
        }
        .items1
{
            background-color: orangered;
        }
        .items2
        {
            background-color: blue;
        }
        .items3
        {
            background-color: green;
        }
        .items4
        {
            background-color: yellow;
        }
        .items5
        {
            background-color: blueviolet;
        }
```

```html
      .items6
      {
         background-color: magenta;
      }
   </style>
</head>
<body>

   <div class="container">
      <div class="item items1">Div1</div>
      <div class="item items2">Div2</div>
      <div class="item items3">Div3</div>
      <div class="item items4">Div4</div>
      <div class="item items5">Div5</div>
      <div class="item items6">Div6</div>
   </div>

</body>
</html>
```

Example

```html
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <meta http-equiv="X-UA-Compatible" content="ie=edge">
    <title>Document</title>
    <style>
        .container      {
            background-color: silver;
            width: 700px;
            margin: 70px 0 0 50px;
            display: grid;
            grid-template-columns: 1fr 200px 10% auto;
        }
        .items1
{

            background-color: orangered;
        }
        .items2
        {
            background-color: blue;
        }
        .items3
        {
            background-color: green;
        }
        .items4
        {
            background-color: yellow;
        }
        .items5
        {
            background-color: blueviolet;
        }
```

```
      .items6
      {
          background-color: magenta;
      }
   </style>
</head>
<body>

   <div class="container">
      <div class="item items1">Div1</div>
      <div class="item items2">Div2</div>
      <div class="item items3">Div3</div>
      <div class="item items4">Div4</div>
      <div class="item items5">Div5</div>
      <div class="item items6">Div6</div>
   </div>

</body>
</html>
```

The "repeat()" function

repeat(number_of_columns / width_of_each_columns)

Example

```html
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <meta http-equiv="X-UA-Compatible" content="ie=edge">
    <title>Document</title>
    <style>
      .container     {
         background-color: silver;
         width: 700px;
         margin: 70px 0 0 50px;
         display: grid;
         grid-template-columns: repeat(2, 200px);
      }
      .items1     {
         background-color: orangered;
      }
      .items2     {
         background-color: blue;
      }
      .items3
      {
         background-color: green;
      }
      .items4
      {
         background-color: yellow;
      }
```

```
        .items5
        {
            background-color: blueviolet;
        }
        .items6
        {
            background-color: magenta;
        }
    </style>
</head>
<body>

    <div class="container">
        <div class="item items1">Div1</div>
        <div class="item items2">Div2</div>
        <div class="item items3">Div3</div>
        <div class="item items4">Div4</div>
        <div class="item items5">Div5</div>
        <div class="item items6">Div6</div>
    </div>

</body>
</html>
```

Example -- "repeat()" for two columns of same width and one column of different width

```html
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <meta http-equiv="X-UA-Compatible" content="ie=edge">
    <title>Document</title>
    <style>
        .container      {
            background-color: silver;
            width: 700px;
            margin: 70px 0 0 50px;
            display: grid;
            grid-template-columns: repeat(2, 200px) 25%;
        }
        .items1
{
            background-color: orangered;
        }
        .items2
        {
            background-color: blue;
        }
        .items3
        {
            background-color: green;
        }
        .items4
        {
            background-color: yellow;
        }
        .items5
        {
            background-color: blueviolet;
        }
```

```
        .items6
        {
            background-color: magenta;
        }
    </style>
</head>
<body>

    <div class="container">
        <div class="item items1">Div1</div>
        <div class="item items2">Div2</div>
        <div class="item items3">Div3</div>
        <div class="item items4">Div4</div>
        <div class="item items5">Div5</div>
        <div class="item items6">Div6</div>
    </div>

</body>
</html>
```

Example -- "repeat()" for two columns of same width and one column of different width

```html
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <meta http-equiv="X-UA-Compatible" content="ie=edge">
    <title>Document</title>
    <style>
      .container
      {
          background-color: silver;
          width: 700px;
          margin: 70px 0 0 50px;
          display: grid;
          grid-template-columns: 25% repeat(2, 200px) ;
      }
      .items1      {
          background-color: orangered;
      }
      .items2
      {
          background-color: blue;
      }
      .items3
      {
          background-color: green;
      }
      .items4
      {
          background-color: yellow;
      }
      .items5
      {
          background-color: blueviolet;
      }
```

```
      .items6
      {
          background-color: magenta;
      }
   </style>
</head>
<body>

   <div class="container">
      <div class="item items1">Div1</div>
      <div class="item items2">Div2</div>
      <div class="item items3">Div3</div>
      <div class="item items4">Div4</div>
      <div class="item items5">Div5</div>
      <div class="item items6">Div6</div>
   </div>

</body>
</html>
```

Example -- "repeat()" for two columns of same width and one column of different width

```html
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <meta http-equiv="X-UA-Compatible" content="ie=edge">
    <title>Document</title>
    <style>
      .container      {
         background-color: silver;
         width: 700px;
         margin: 70px 0 0 50px;
         display: grid;
         grid-template-columns: repeat(2, 200px) 1fr;
         grid-template-rows: 200px 200px 200px;
      }
      .items1      {
         background-color: orangered;
      }
      .items2
      {
         background-color: blue;
      }
      .items3
      {
         background-color: green;
      }
      .items4
      {
         background-color: yellow;
      }
      .items5
      {
         background-color: blueviolet;
      }
```

```
      .items6
      {
          background-color: magenta;
      }
   </style>
</head>
<body>

   <div class="container">
      <div class="item items1">Div1</div>
      <div class="item items2">Div2</div>
      <div class="item items3">Div3</div>
      <div class="item items4">Div4</div>
      <div class="item items5">Div5</div>
      <div class="item items6">Div6</div>
   </div>

</body>
</html>
```

grid-template-rows

For child element height we use "grid-template-rows".

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <meta http-equiv="X-UA-Compatible" content="ie=edge">
    <title>Document</title>
    <style>
        .container
        {
            background-color: silver;
            width: 700px;
            margin: 70px 0 0 50px;
            display: grid;
            grid-template-columns: 450px 200px;
            grid-template-rows: 200px 200px 200px;
        }
        .items1
        {
            background-color: orangered;
        }
        .items2
        {
            background-color: blue;
        }
        .items3
        {
            background-color: green;
        }
        .items4
        {
            background-color: yellow;
        }
```

```html
        .items5
        {
            background-color: blueviolet;
        }
        .items6
        {
            background-color: magenta;
        }
    </style>
</head>
<body>

    <div class="container">
        <div class="item items1">Div1</div>
        <div class="item items2">Div2</div>
        <div class="item items3">Div3</div>
        <div class="item items4">Div4</div>
        <div class="item items5">Div5</div>
        <div class="item items6">Div6</div>
    </div>

</body>
</html>
```

Working with "auto"

Example

```html
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <meta http-equiv="X-UA-Compatible" content="ie=edge">
    <title>Document</title>
    <style>
      .container      {
         background-color: silver;
         width: 700px;
         height:650px;
         margin: 70px 0 0 50px;
         display: grid;
         grid-template-columns: 25% repeat(2, 200px) ;
         grid-template-rows: 100px auto;
      }
      .items1
      {
         background-color: orangered;
      }
      .items2
      {
         background-color: blue;
      }
      .items3
      {
         background-color: green;
      }
      .items4
      {
         background-color: yellow;
      }
```

```
        .items5
        {
            background-color: blueviolet;
        }
        .items6
        {
            background-color: magenta;
        }
    </style>
</head>
<body>

    <div class="container">
        <div class="item items1">Div1</div>
        <div class="item items2">Div2</div>
        <div class="item items3">Div3</div>
        <div class="item items4">Div4</div>
        <div class="item items5">Div5</div>
        <div class="item items6">Div6</div>
    </div>

</body>
</html>
```

Example

```html
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <meta http-equiv="X-UA-Compatible" content="ie=edge">
    <title>Document</title>
    <style>

        .container
        {
            background-color: silver;
            width: 700px;
            height:650px;
            margin: 70px 0 0 50px;
            display: grid;
            grid-template-columns: 25% repeat(2, 200px) ;
            grid-template-rows: auto auto;
        }
        .items1
        {
            background-color: orangered;
        }
        .items2
        {
            background-color: blue;
        }
        .items3
        {
            background-color: green;
        }
        .items4
        {
            background-color: yellow;
        }
```

```
        .items5
        {
            background-color: blueviolet;
        }
        .items6
        {
            background-color: magenta;
        }
    </style>
</head>
<body>

    <div class="container">
        <div class="item items1">Div1</div>
        <div class="item items2">Div2</div>
        <div class="item items3">Div3</div>
        <div class="item items4">Div4</div>
        <div class="item items5">Div5</div>
        <div class="item items6">Div6</div>
    </div>

</body>
</html>
```

Fractional Unit

Example

```html
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <meta http-equiv="X-UA-Compatible" content="ie=edge">
    <title>Document</title>
    <style>
        .container      {
            background-color: silver;
            width: 700px;
            height:650px;
            margin: 70px 0 0 50px;
            display: grid;
            grid-template-columns: 25% repeat(2, 200px) ;
            grid-template-rows: 1fr 200px;
        }
        .items1
        {
            background-color: orangered;
        }
        .items2
        {
            background-color: blue;
        }
        .items3
        {
            background-color: green;
        }
        .items4
        {
            background-color: yellow;
        }
```

```
        .items5
        {
            background-color: blueviolet;
        }
        .items6
        {
            background-color: magenta;
        }
    </style>
</head>
<body>

    <div class="container">
        <div class="item items1">Div1</div>
        <div class="item items2">Div2</div>
        <div class="item items3">Div3</div>
        <div class="item items4">Div4</div>
        <div class="item items5">Div5</div>
        <div class="item items6">Div6</div>
    </div>

</body>
</html>
```

Example -- Important

```html
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <meta http-equiv="X-UA-Compatible" content="ie=edge">
    <title>Document</title>
    <style>
        .container      {
            background-color: silver;
            width: 700px;
            margin: 70px 0 0 50px;
            display: grid;
            grid-template-columns: 1fr 1fr 1fr ;
            grid-template-rows: 1fr 1fr;
        }
        .items1      {
            background-color: orangered;
        }
        .items2
        {
            background-color: blue;
        }
        .items3
        {
            background-color: green;
        }
        .items4
        {
            background-color: yellow;
        }
        .items5
        {
            background-color: blueviolet;
        }
```

```
      .items6
      {
          background-color: magenta;
      }
   </style>
</head>
<body>

   <div class="container">
      <div class="item items1">Div1</div>
      <div class="item items2">Div2</div>
      <div class="item items3">Div3</div>
      <div class="item items4">Div4</div>
      <div class="item items5">Div5</div>
      <div class="item items6">Div6</div>
   </div>

</body>
</html>
```

The "repeat()" function

Syntax

repeat(number_of_rows / height_of_each_row)

Example

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <meta http-equiv="X-UA-Compatible" content="ie=edge">
    <title>Document</title>
    <style>
      .container      {
        background-color: silver;
        width: 700px;
        height:650px;
        margin: 70px 0 0 50px;
        display: grid;
        grid-template-columns: 25% repeat(2, 200px) ;
        grid-template-rows: repeat(2, 1fr);
      }
      .items1
      {
        background-color: orangered;
      }
      .items2
      {
        background-color: blue;
      }
      .items3
      {
        background-color: green;
      }
```

```
        .items4
        {
            background-color: yellow;
        }
        .items5
        {
            background-color: blueviolet;
        }
        .items6
        {
            background-color: magenta;
        }
    </style>
</head>
<body>

    <div class="container">
        <div class="item items1">Div1</div>
        <div class="item items2">Div2</div>
        <div class="item items3">Div3</div>
        <div class="item items4">Div4</div>
        <div class="item items5">Div5</div>
        <div class="item items6">Div6</div>
    </div>

</body>
</html>
```

b) - Grid Gaping Properties

- In order to make a space between rows and columns we have to use "grid-gap" properties.
- For making gap between rows and columns we use :-

grid-row-gap

In order to create gap between rows we use "grid-row-gap".

Example

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <meta http-equiv="X-UA-Compatible" content="ie=edge">
    <title>Document</title>
    <style>
        .container     {
            background-color: silver;
            width: 700px;
            margin: 70px 0 0 50px;
            display: grid;
            grid-template-columns: 1fr 1fr 1fr ;
            grid-template-rows: 1fr 1fr;
            grid-row-gap:20px;
        }
        .items1     {
            background-color: orangered;
        }
        .items2
        {
            background-color: blue;
        }
        .items3
```

```
        {
            background-color: green;
        }
        .items4
        {
            background-color: yellow;
        }
        .items5
        {
            background-color: blueviolet;
        }
        .items6
        {
            background-color: magenta;
        }
    </style>
</head>
<body>

    <div class="container">
        <div class="item items1">Div1</div>
        <div class="item items2">Div2</div>
        <div class="item items3">Div3</div>
        <div class="item items4">Div4</div>
        <div class="item items5">Div5</div>
        <div class="item items6">Div6</div>
    </div>

</body>
</html>
```

grid-column-gap

In order to create gap between "columns" we use "grid-column-gap".

Example

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <meta http-equiv="X-UA-Compatible" content="ie=edge">
    <title>Document</title>
    <style>
        .container
        {
            background-color: silver;
            width: 700px;
            height:650px;
            margin: 70px 0 0 50px;
            display: grid;
            grid-template-columns: 1fr 1fr 1fr ;
            grid-template-rows: 1fr 1fr;
            grid-column-gap:20px;
        }
        .items1
        {
            background-color: orangered;
        }
        .items2
        {
            background-color: blue;
        }
        .items3
        {
            background-color: green;
        }
```

```
        .items4
        {
            background-color: yellow;
        }
        .items5
        {
            background-color: blueviolet;
        }
        .items6
        {
            background-color: magenta;
        }
    </style>
</head>
<body>

    <div class="container">
        <div class="item items1">Div1</div>
        <div class="item items2">Div2</div>
        <div class="item items3">Div3</div>
        <div class="item items4">Div4</div>
        <div class="item items5">Div5</div>
        <div class="item items6">Div6</div>
    </div>

</body>
</html>
```

Example -- Both "grid-column-gap" & "grid-row-gap"

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <meta http-equiv="X-UA-Compatible" content="ie=edge">
    <title>Document</title>
    <style>
      .container      {
          background-color: silver;
          width: 700px;
          height:650px;
          margin: 70px 0 0 50px;
          display: grid;
          grid-template-columns: 1fr 1fr 1fr ;
          grid-template-rows: 1fr 1fr;
          grid-column-gap:20px;
          grid-row-gap: 50px;
      }
      .items1
      {
          background-color: orangered;
      }
      .items2
      {
          background-color: blue;
      }
      .items3
      {
          background-color: green;
      }
      .items4
      {
          background-color: yellow;
      }
```

```
        .items5
        {
            background-color: blueviolet;
        }
        .items6
        {
            background-color: magenta;
        }
    </style>
</head>
<body>

    <div class="container">
        <div class="item items1">Div1</div>
        <div class="item items2">Div2</div>
        <div class="item items3">Div3</div>
        <div class="item items4">Div4</div>
        <div class="item items5">Div5</div>
        <div class="item items6">Div6</div>
    </div>

</body>
</html>
```

grid-gap property / Shorthand

For creating gaps between rows & columns we use "grid-gap" property.

Example -- grid-gap property

```html
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <meta http-equiv="X-UA-Compatible" content="ie=edge">
    <title>Document</title>
    <style>
        .container
        {
            background-color: silver;
            width: 700px;
            margin: 70px 0 0 50px;
            display: grid;
            grid-template-columns: 1fr 1fr 1fr;
            grid-template-rows: 200px 200px 200px;
            grid-gap: 20px;
        }
        .items1
        {
            background-color: orangered;
        }
        .items2
        {
            background-color: blue;
        }
        .items3
        {
            background-color: green;
        }
```

```
        .items4
        {
            background-color: yellow;
        }
        .items5
        {
            background-color: blueviolet;
        }
        .items6
        {
            background-color: magenta;
        }
    </style>
</head>
<body>

    <div class="container">
        <div class="item items1">Div1</div>
        <div class="item items2">Div2</div>
        <div class="item items3">Div3</div>
        <div class="item items4">Div4</div>
        <div class="item items5">Div5</div>
        <div class="item items6">Div6</div>
    </div>

</body>
</html>
```

c)- Grid Items Positioning Properties

- In order to move first child to last and last child to first we have to use "grid positioning properties".
- Grid items positioning can be done with "grid lines".

We have some new properties for positioning grid items.

"grid-row-start" & "grid-row-end"

- For moving grid items to a specific row we use "grid-row-start" & "grid-row-end".
- These properties applies with those grid item whose position we want to change.

Example

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <meta http-equiv="X-UA-Compatible" content="ie=edge">
    <title>Document</title>
    <style>
      .container
      {
          background-color: silver;
          width: 700px;
          height:650px;
          margin: 70px 0 0 50px;
          display: grid;
          grid-template-columns: 1fr 1fr 1fr ;
          grid-template-rows: 1fr 1fr;
          grid-column-gap:20px;
          grid-row-gap: 50px;
      }
```
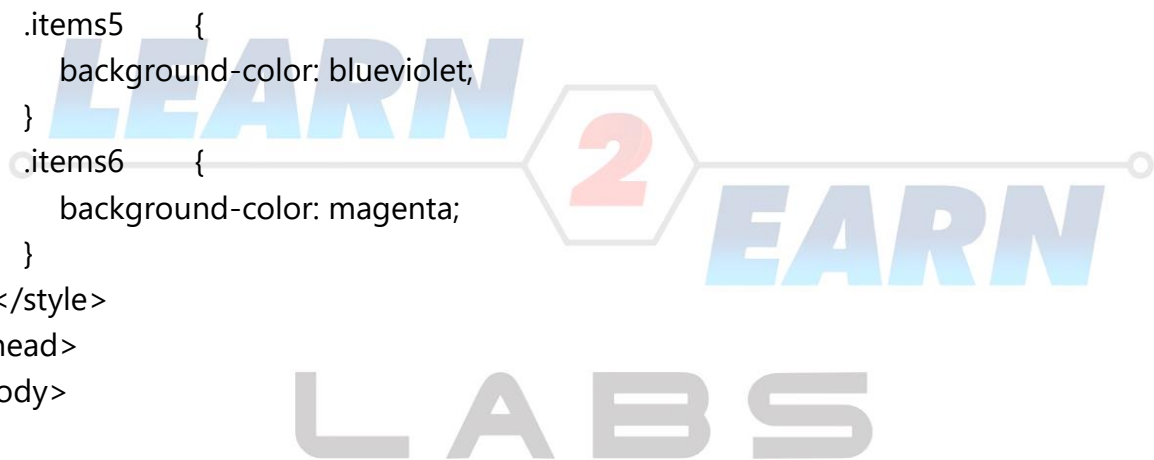
```
        .items1      {
           background-color: orangered;
        }
        .items2      {
           background-color: blue;
        }
        .items3      {
           background-color: green;
           grid-row-start: 2;
           grid-row-end: 3;
        }
        .items4      {
           background-color: yellow;
        }
        .items5      {
           background-color: blueviolet;
        }
        .items6      {
           background-color: magenta;
        }
   </style>
</head>
<body>

   <div class="container">
      <div class="item items1">Div1</div>
      <div class="item items2">Div2</div>
      <div class="item items3">Div3</div>
      <div class="item items4">Div4</div>
      <div class="item items5">Div5</div>
      <div class="item items6">Div6</div>
   </div>

</body>
</html>
```

"grid-column-start" & "grid-column-end"

- For moving grid items to a specific column we use "grid-column-start" & "grid-column-end".
- These properties applies with those grid item whose position we want to change.

Example

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <meta http-equiv="X-UA-Compatible" content="ie=edge">
    <title>Document</title>
    <style>
    .container
      {
          background-color: silver;
          width: 700px;
          height:650px;
          margin: 70px 0 0 50px;
          display: grid;
          grid-template-columns: 1fr 1fr 1fr ;
          grid-template-rows: 1fr 1fr;
          grid-column-gap:20px;
          grid-row-gap: 50px;
      }
    .items1
      {
          background-color: orangered;
      }
    .items2
      {
          background-color: blue;
      }
```

```
    .items3
    {
        background-color: green;
        grid-column-start: 3;
        grid-column-end: 4;
    }
    .items4
    {
        background-color: yellow;
    }
    .items5
    {
        background-color: blueviolet;
    }
    .items6
    {
        background-color: magenta;
    }
    </style>
</head>
<body>

    <div class="container">
        <div class="item items1">Div1</div>
        <div class="item items2">Div2</div>
        <div class="item items3">Div3</div>
        <div class="item items4">Div4</div>
        <div class="item items5">Div5</div>
        <div class="item items6">Div6</div>
    </div>

</body>
</html>
```

Example

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <meta http-equiv="X-UA-Compatible" content="ie=edge">
    <title>Document</title>
    <style>

        .container
        {
            background-color: silver;
            width: 700px;
            height:650px;
            margin: 70px 0 0 50px;
            display: grid;
            grid-template-columns: 1fr 1fr 1fr ;
            grid-template-rows: 1fr 1fr;
            grid-column-gap:20px;
            grid-row-gap: 50px;
        }
        .items1
        {
            background-color: orangered;
        }
        .items2
        {
            background-color: blue;
        }
        .items3
        {
            background-color: green;
            grid-column-start: 2;
            grid-column-end: 3;
        }
```

```
        .items4
        {
            background-color: yellow;
        }
        .items5
        {
            background-color: blueviolet;
        }
        .items6
        {
            background-color: magenta;
        }
    </style>
</head>
<body>

    <div class="container">
        <div class="item items1">Div1</div>
        <div class="item items2">Div2</div>
        <div class="item items3">Div3</div>
        <div class="item items4">Div4</div>
        <div class="item items5">Div5</div>
        <div class="item items6">Div6</div>
    </div>

</body>
</html>
```

Example

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <meta http-equiv="X-UA-Compatible" content="ie=edge">
    <title>Document</title>
    <style>

        .container
        {
            background-color: silver;
            width: 700px;
            height:650px;
            margin: 70px 0 0 50px;
            display: grid;
            grid-template-columns: 1fr 1fr 1fr ;
            grid-template-rows: 1fr 1fr;
            grid-column-gap:20px;
            grid-row-gap: 50px;
        }
        .items1
        {
            background-color: orangered;
        }
        .items2
        {
            background-color: blue;
        }
        .items3
        {
            background-color: green;
            grid-column-start: 3;
            grid-column-end: 2;
        }
```

```
        .items4
        {
            background-color: yellow;
        }
        .items5
        {
            background-color: blueviolet;
        }
        .items6
        {
            background-color: magenta;
        }
    </style>
</head>
<body>

    <div class="container">
        <div class="item items1">Div1</div>
        <div class="item items2">Div2</div>
        <div class="item items3">Div3</div>
        <div class="item items4">Div4</div>
        <div class="item items5">Div5</div>
        <div class="item items6">Div6</div>
    </div>

</body>
</html>
```

Using Both ["grid-row-start" & "grid-row-end" / "grid-column-start" & "grid-column-end"]

Example --

```html
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <meta http-equiv="X-UA-Compatible" content="ie=edge">
    <title>Document</title>
    <style>
        .container
{
            background-color: silver;
            width: 700px;
            height:650px;
            margin: 70px 0 0 50px;
            display: grid;
            grid-template-columns: 1fr 1fr 1fr ;
            grid-template-rows: 1fr 1fr;
            grid-column-gap:20px;
            grid-row-gap: 50px;
        }
        .items1      {
            background-color: orangered;
        }
        .items2
        {
            background-color: blue;
        }
        .items3
        {
            background-color: green;
            grid-row-start: 2;
            grid-row-end: 3;
```

```
                grid-column-start: 2;
                grid-column-end: 3;
        }
        .items4
        {
                background-color: yellow;
        }
        .items5
        {
                background-color: blueviolet;
        }
        .items6
        {
                background-color: magenta;
        }
    </style>
</head>
<body>

    <div class="container">
        <div class="item items1">Div1</div>
        <div class="item items2">Div2</div>
        <div class="item items3">Div3</div>
        <div class="item items4">Div4</div>
        <div class="item items5">Div5</div>
        <div class="item items6">Div6</div>
    </div>

</body>
</html>
```

Using Shorthands of ["grid-row-start" & "grid-row-end" / "grid-column-start" & "grid-column-end"]

- The Shorthand property of "grid-row-start" & "grid-row-end" is "grid-row".
- The Shorthand property of "grid-column-start" & "grid-column-end" is "grid-column".

Syntax -- "grid-row"

grid-row : grid-row-start / grid-row-end

Syntax -- "grid-column"

grid-column : grid-column-start / grid-column-end

Example

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <meta http-equiv="X-UA-Compatible" content="ie=edge">
    <title>Document</title>
    <style>
      .container       {
          background-color: silver;
          width: 700px;
          height:650px;
          margin: 70px 0 0 50px;
          display: grid;
          grid-template-columns: 1fr 1fr 1fr ;
          grid-template-rows: 1fr 1fr;
          grid-column-gap:20px;
          grid-row-gap: 50px;
      }
```
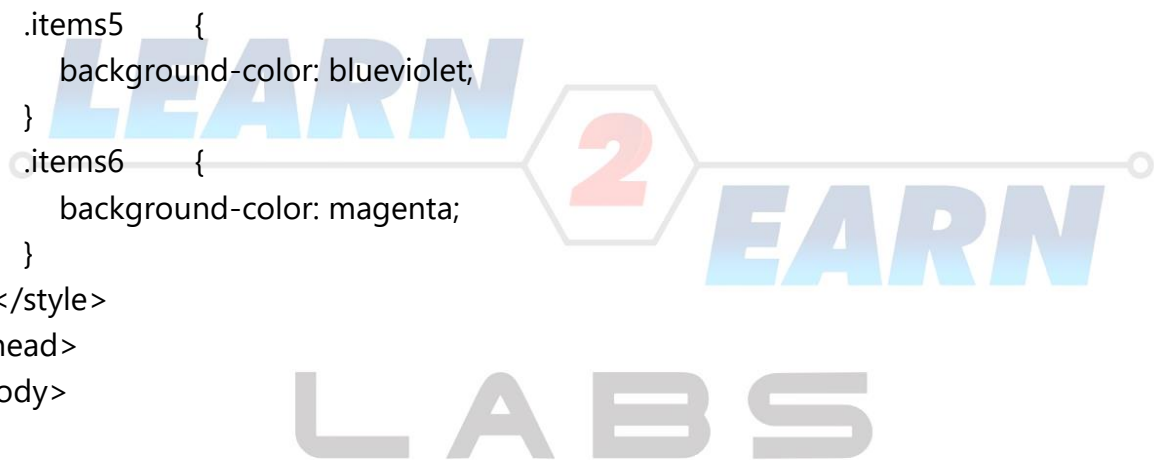
```
    .items1      {
        background-color: orangered;
    }
    .items2      {
        background-color: blue;
    }
    .items3      {
        background-color: green;
        grid-row: 2/3;
        grid-column: 3/4;
    }
    .items4      {
        background-color: yellow;
    }
    .items5      {
        background-color: blueviolet;
    }
    .items6      {
        background-color: magenta;
    }
  </style>
</head>
<body>

  <div class="container">
     <div class="item items1">Div1</div>
     <div class="item items2">Div2</div>
     <div class="item items3">Div3</div>
     <div class="item items4">Div4</div>
     <div class="item items5">Div5</div>
     <div class="item items6">Div6</div>
  </div>

</body>
</html>
```

Using Shorthand of ["grid-row" / "grid-column"]

We use "grid-area" as a Shorthand of ["grid-row" / "grid-column"].

Syntax

> grid-area : grid-row-start / grid-column-start / grid-row-end / grid-column-end

Example

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <meta http-equiv="X-UA-Compatible" content="ie=edge">
    <title>Document</title>
    <style>
      .container      {
         background-color: silver;
         width: 700px;
         height:650px;
         margin: 70px 0 0 50px;
         display: grid;
         grid-template-columns: 1fr 1fr 1fr ;
         grid-template-rows: 1fr 1fr;
         grid-column-gap:20px;
         grid-row-gap: 50px;
      }
      .items1      {
         background-color: orangered;
      }
      .items2
      {
         background-color: blue;
      }
```

```
        .items3
        {
            background-color: green;
            grid-area: 2 / 2 / 3 / 3;
        }
        .items4
        {
            background-color: yellow;
        }
        .items5
        {
            background-color: blueviolet;
        }
        .items6
        {
            background-color: magenta;
        }
    </style>
</head>
<body>

    <div class="container">
        <div class="item items1">Div1</div>
        <div class="item items2">Div2</div>
        <div class="item items3">Div3</div>
        <div class="item items4">Div4</div>
        <div class="item items5">Div5</div>
        <div class="item items6">Div6</div>
    </div>

</body>
</html>
```

Grid Spaning

Example

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <meta http-equiv="X-UA-Compatible" content="ie=edge">
    <title>Document</title>
    <style>
        .container      {
            background-color: silver;
            width: 700px;
            height:650px;
            margin: 70px 0 0 50px;
            display: grid;
            grid-template-columns: 1fr 1fr 1fr ;
            grid-template-rows: 1fr 1fr;
            grid-column-gap:20px;
            grid-row-gap: 50px;
        }
        .items1
        {
            background-color: orangered;
        }
        .items2
        {
            background-color: blue;
            grid-column: 1 / 3;
            grid-row: 1 / 2;
        }
        .items3
        {
            background-color: green;
```

```
        }
        .items4
        {
            background-color: yellow;
        }
        .items5
        {
            background-color: blueviolet;
        }
        .items6
        {
            background-color: magenta;
        }
    </style>
</head>
<body>

    <div class="container">
        <div class="item items1">Div1</div>
        <div class="item items2">Div2</div>
        <div class="item items3">Div3</div>
        <div class="item items4">Div4</div>
        <div class="item items5">Div5</div>
        <div class="item items6">Div6</div>
    </div>

</body>
</html>
```

Example

```html
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <meta http-equiv="X-UA-Compatible" content="ie=edge">
    <title>Document</title>
    <style>
      .container
      {
          background-color: silver;
          width: 700px;
          height:650px;
          margin: 70px 0 0 50px;
          display: grid;
          grid-template-columns: 1fr 1fr 1fr ;
          grid-template-rows: 1fr 1fr;
          grid-column-gap:20px;
          grid-row-gap: 50px;
      }
      .items1
      {
          background-color: orangered;
      }
      .items2
      {
          background-color: blue;
          grid-column: 1 / 3;
          grid-row: 1 / 2;
      }
      .items3
      {
          background-color: green;

      }
```

```
      .items4
      {
         background-color: yellow;
         grid-column: 2 / 4;
      }
      .items5
      {
         background-color: blueviolet;
      }
      .items6
      {
         background-color: magenta;
      }
   </style>
</head>
<body>

   <div class="container">
      <div class="item items1">Div1</div>
      <div class="item items2">Div2</div>
      <div class="item items3">Div3</div>
      <div class="item items4">Div4</div>
      <div class="item items5">Div5</div>
      <div class="item items6">Div6</div>
   </div>

</body>
</html>
```

"span" property

span number_of_columns_to_span

Example

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <meta http-equiv="X-UA-Compatible" content="ie=edge">
    <title>Document</title>
    <style>
      .container      {
        background-color: silver;
        width: 700px;
        height:650px;
        margin: 70px 0 0 50px;
        display: grid;
        grid-template-columns: 1fr 1fr 1fr ;
        grid-template-rows: 1fr 1fr;
        grid-column-gap:20px;
        grid-row-gap: 50px;
      }
      .items1
      {
        background-color: orangered;
      }
      .items2
      {
        background-color: blue;
        grid-column: 1 / span 2;
        grid-row: 1 / 2;
      }
```

```
        .items3
        {
            background-color: green;
        }
        .items4
        {
            background-color: yellow;
            grid-column: 2 / 4;
            grid-row: 2 / 3;
        }
        .items5
        {
            background-color: blueviolet;
        }
        .items6
        {
            background-color: magenta;
        }
    </style>
</head>
<body>

    <div class="container">
        <div class="item items1">Div1</div>
        <div class="item items2">Div2</div>
        <div class="item items3">Div3</div>
        <div class="item items4">Div4</div>
        <div class="item items5">Div5</div>
        <div class="item items6">Div6</div>
    </div>

</body>
</html>
```

Example

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <meta http-equiv="X-UA-Compatible" content="ie=edge">
    <title>Document</title>
    <style>
        .container
        {
            background-color: silver;
            width: 700px;
            height:650px;
            margin: 70px 0 0 50px;
            display: grid;
            grid-template-columns: 1fr 1fr 1fr ;
            grid-template-rows: 1fr 1fr;
            grid-column-gap:20px;
            grid-row-gap: 50px;
        }
        .items1
        {
            background-color: orangered;
        }
        .items2
        {
            background-color: blue;
            grid-column: 1 / span 2;
            grid-row: 1 / 2;
        }
        .items3
        {
            background-color: green;

        }
```

```
        .items4
        {
           background-color: yellow;
           grid-column: 2 / span 2;
           grid-row: 2 / 3;
        }
        .items5
        {
           background-color: blueviolet;
        }
        .items6
        {
           background-color: magenta;
        }
    </style>
</head>
<body>

    <div class="container">
        <div class="item items1">Div1</div>
        <div class="item items2">Div2</div>
        <div class="item items3">Div3</div>
        <div class="item items4">Div4</div>
        <div class="item items5">Div5</div>
        <div class="item items6">Div6</div>
    </div>

</body>
</html>
```

Example - Spaning "rows & columns"

```html
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <meta http-equiv="X-UA-Compatible" content="ie=edge">
    <title>Document</title>
    <style>
      .container
      {
          background-color: silver;
          width: 700px;
          height:650px;
          margin: 70px 0 0 50px;
          display: grid;
          grid-template-columns: 1fr 1fr 1fr ;
          grid-template-rows: 1fr 1fr;
          grid-column-gap:20px;
          grid-row-gap: 50px;
      }
      .items1
      {
          background-color: orangered;
      }
      .items2
      {
          background-color: blue;
          grid-column: 1 / span 2;
          grid-row: 1 / 2;
      }
      .items3
      {
          background-color: green;
          grid-row: 2 / 4;
      }
```

```
      .items4
      {
         background-color: yellow;
         grid-column: 2 / span 2;
         grid-row: 2 / 3;
      }
      .items5
      {
         background-color: blueviolet;
      }
      .items6
      {
         background-color: magenta;
      }
   </style>
</head>
<body>

   <div class="container">
      <div class="item items1">Div1</div>
      <div class="item items2">Div2</div>
      <div class="item items3">Div3</div>
      <div class="item items4">Div4</div>
      <div class="item items5">Div5</div>
      <div class="item items6">Div6</div>
   </div>

</body>
</html>
```

Example

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <meta http-equiv="X-UA-Compatible" content="ie=edge">
    <title>Document</title>
    <style>
      .container
      {
          background-color: silver;
          width: 700px;
          height:650px;
          margin: 70px 0 0 50px;
          display: grid;
          grid-template-columns: 1fr 1fr 1fr ;
          grid-template-rows: 1fr 1fr;
          grid-column-gap:20px;
          grid-row-gap: 50px;
      }
      .items1
      {
          background-color: orangered;
      }
      .items2
      {
          background-color: blue;
          grid-column: 1 / span 2;
          grid-row: 1 / 2;
      }
      .items3
      {
          background-color: green;
          grid-row: 2 / span 2;
      }
```

```
      .items4
      {
         background-color: yellow;
         grid-column: 2 / span 2;
         grid-row: 2 / 3;
      }
      .items5
      {
         background-color: blueviolet;
      }
      .items6
      {
         background-color: magenta;
      }
   </style>
</head>
<body>

   <div class="container">
      <div class="item items1">Div1</div>
      <div class="item items2">Div2</div>
      <div class="item items3">Div3</div>
      <div class="item items4">Div4</div>
      <div class="item items5">Div5</div>
      <div class="item items6">Div6</div>
   </div>

</body>
</html>
```

Full Spaning "rows" & "columns"

Example : Spanning full "columns"

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <meta http-equiv="X-UA-Compatible" content="ie=edge">
    <title>Document</title>
    <style>
      .container      {
          background-color: silver;
          width: 700px;
          height:650px;
          margin: 70px 0 0 50px;
          display: grid;
          grid-template-columns: 1fr 1fr 1fr ;
          grid-template-rows: repeat(4,200px);
          grid-column-gap:20px;
          grid-row-gap: 50px;
      }
      .items1      {
          background-color: orangered;
      }
      .items2
      {
          background-color: blue;
          grid-column: 1 / -1;
          grid-row: 1 / 2;
      }
      .items3
      {
          background-color: green;
          grid-row: 2 / span 2;
      }
```

```
        .items4
        {
            background-color: yellow;
            grid-column: 2 / span 2;
            grid-row: 2 / 3;
        }
        .items5
        {
            background-color: blueviolet;
        }
        .items6
        {
            background-color: magenta;
        }
    </style>
</head>
<body>

    <div class="container">
        <div class="item items1">Div1</div>
        <div class="item items2">Div2</div>
        <div class="item items3">Div3</div>
        <div class="item items4">Div4</div>
        <div class="item items5">Div5</div>
        <div class="item items6">Div6</div>
    </div>
</body>
</html>
```

Example - Full Spaning "rows"

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <meta http-equiv="X-UA-Compatible" content="ie=edge">
    <title>Document</title>
    <style>
        .container
        {
            background-color: silver;
            width: 700px;
            height:650px;
            margin: 70px 0 0 50px;
            display: grid;
            grid-template-columns: 1fr 1fr 1fr ;
            grid-template-rows: repeat(4,200px);
            grid-column-gap:20px;
            grid-row-gap: 50px;
        }
        .items1
        {
            background-color: orangered;
        }
        .items2
        {
            background-color: blue;
            grid-column: 1 / -1;
            grid-row: 1 / 2;
        }
        .items3
        {
            background-color: green;
            grid-row: 2 / -1;
        }
```

```
      .items4
      {
         background-color: yellow;
         grid-column: 2 / span 2;
         grid-row: 2 / 3;
      }
      .items5
      {
         background-color: blueviolet;
      }
      .items6
      {
         background-color: magenta;
      }
   </style>
</head>
<body>

   <div class="container">
      <div class="item items1">Div1</div>
      <div class="item items2">Div2</div>
      <div class="item items3">Div3</div>
      <div class="item items4">Div4</div>
      <div class="item items5">Div5</div>
      <div class="item items6">Div6</div>
   </div>

</body>
</html>
```