FLEXBOX

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About the Tutorial

Flexbox (flexible box) is a layout mode of CSS3. Using this mode, you can easily create layouts for complex applications and web pages. Flexbox layout gives complete control over the direction, alignment, order, size of the boxes.

In this tutorial, we are going to learn how to use the various features available in Flexbox.

Audience

This tutorial has been prepared for beginners to make them understand the basics of Flexbox library. It will help the readers in aligning the contents of a webpage easily.

Prerequisites

For this tutorial, it is assumed that the readers have a prior knowledge of CSS and HTML

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1. Flexbox – Overview

Cascading **S**tyle **S**heets (CSS) is a simple design language intended to simplify the process of making web pages presentable. CSS handles the look and feel part of a web page.

Using CSS, you can control the color of the text, the style of fonts, the spacing between paragraphs, how columns are sized and laid out, what background images or colors are used, layout designs, variations in display for different devices and screen sizes as well as a variety of other effects.

To determine the position and dimensions of the boxes, in CSS, you can use one of the layout modes available –

- **The block layout**: This mode is used in laying out documents.
- **The inline layout**: This mode is used in laying out text.
- **The table layout**: This mode is used in laying out tables.
- **The positioned layout**: This mode is used in positioning the elements.

All these modes are used to align specific elements like documents, text, tables, etc., however, none of these provides a complete solution to lay out complex websites. Initially this is used to be done using a combination of floated elements, positioned elements, and table layout (often). But floats only allow to horizontally position the boxes.

What is Flexbox?

In addition to the above-mentioned modes, CSS3 provides another layout mode Flexible Box, commonly called as **Flexbox**.

Using this mode, you can easily create layouts for complex applications and web pages. Unlike floats, Flexbox layout gives complete control over the direction, alignment, order, size of the boxes.

Features of Flexbox

Following are the notable features of Flexbox layout:

- **Direction:** You can arrange the items on a web page in any direction such as left to right, right to left, top to bottom, and bottom to top.
- **Order:** Using Flexbox, you can rearrange the order of the contents of a web page.
- **Wrap:** In case of inconsistent space for the contents of a web page (in single line), you can wrap them to multiple lines (both horizontally) and vertically.
- **Alignment:** Using Flexbox, you can align the contents of the webpage with respect to their container.
- **Resize**: Using Flexbox, you can increase or decrease the size of the items in the page to fit in available space.

Supporting browsers

Following are the browsers that support Flexbox.

- Chrome 29+
- Firefox 28+
- Internet Explorer 11+
- Opera 17+
- Safari 6.1+
- Android 4.4+
- iOS 7.1+

2. Flexbox – Flex Containers

To use Flexbox in your application, you need to create/define a flex container using the **display** property.

Usage:

```
display: flex | inline-flex
```

This property accepts two values –

- **flex:** Generates a block level flex container.
- **inline-flex:** Generates an inline flex container box.

Now, we will see how to use the **display** property with examples.

Flex

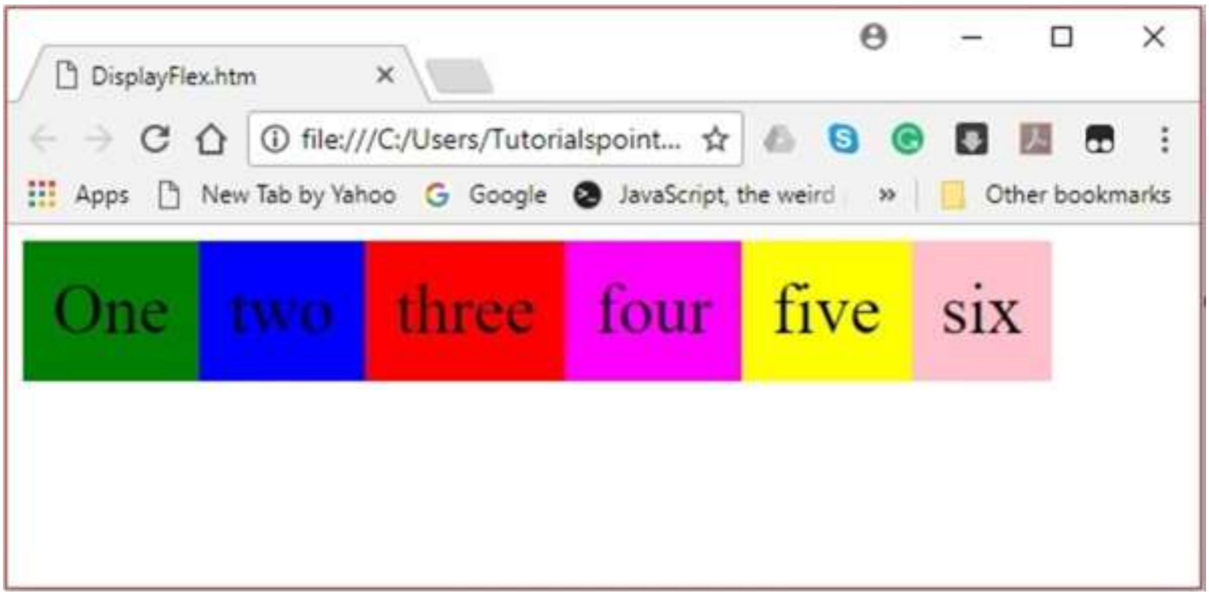
On passing this value to the display property, a block level flex container will be created. It occupies the full width of the parent container (browser).

The following example demonstrates how to create a block level flex container. Here, we are creating six boxes with different colors and we have used the flex container to hold them.

```
<!doctype html>
<html lang="en">

<style>
.box1{background:green;}
.box2{background:blue;}
.box3{background:red;}
.box4{background:magenta;}
.box5{background:yellow;}
.box6{background:pink;}

.container{
   display:flex;
}

.box{
  font-size:35px;
  padding:15px;
}
</style>
```

```

<body>
<div class="container">
  <div class="box box1">One</div>
  <div class="box box2">two</div>
  <div class="box box3">three</div>
  <div class="box box4">four</div>
  <div class="box box5">five</div>
  <div class="box box6">six</div>
</div>
</body>
<html>
```

It will produce the following result –

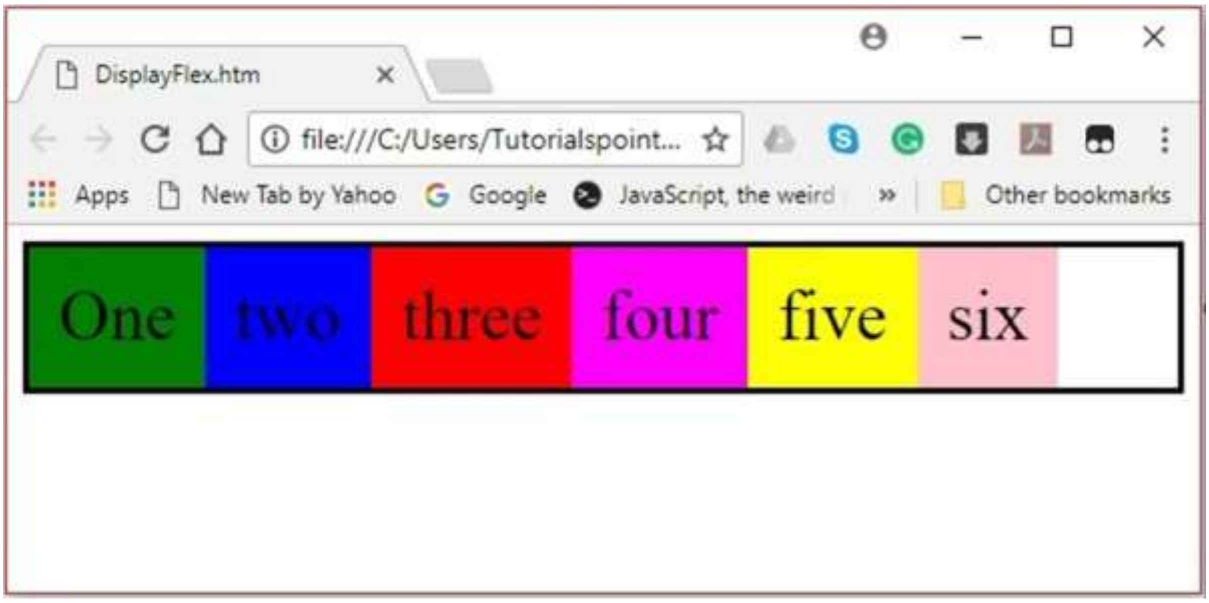


Since we have given the value **flex** to the **display** property, the container uses the width of the container (browser).

You can observe this by adding a border to the container as shown below.

```
.container{
   display:inline-flex;
   border:3px solid black;
}
```

It will produce the following result –



Inline flex

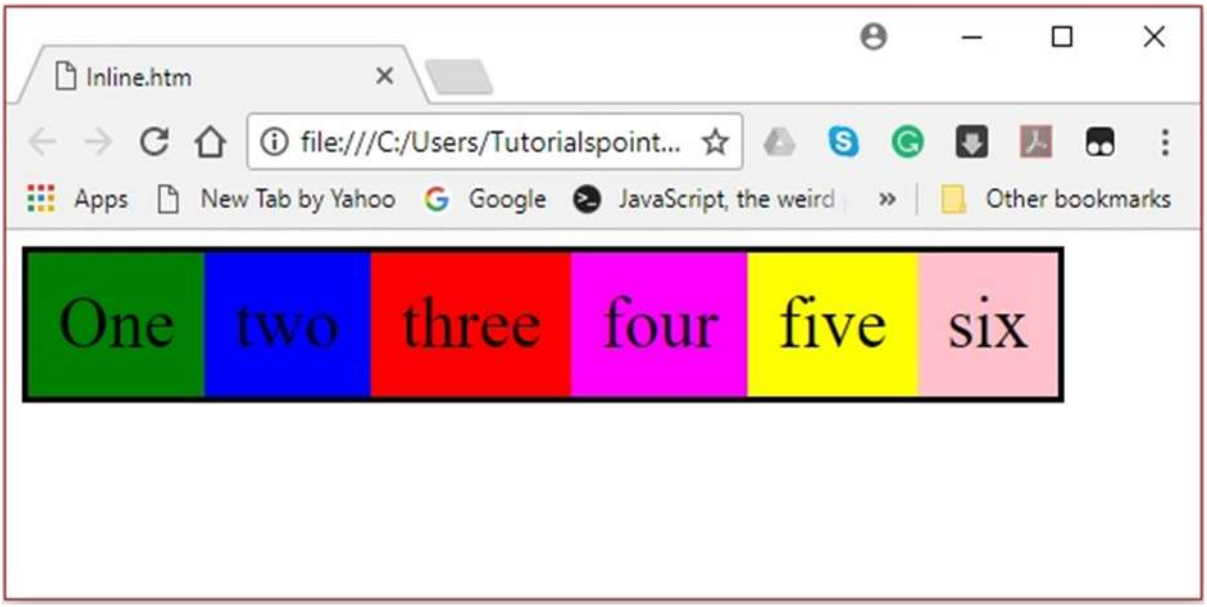
On passing this value to the **display** property, an inline level flex container will be created. It just takes the place required for the content.

The following example demonstrates how to create an inline flex container. Here, we are creating six boxes with different colors and we have used the inline-flex container to hold them.

```
<!doctype html>
<html lang="en">
<style>
.box1{background:green;}
.box2{background:blue;}
.box3{background:red;}
.box4{background:magenta;}
.box5{background:yellow;}
.box6{background:pink;}

.container{
   display:inline-flex;
   border:3px solid black;
}

.box{
  font-size:35px;
  padding:15px;
}
```

```
</style>
<body>
<div class="container">
  <div class="box box1">One</div>
  <div class="box box2">two</div>
  <div class="box box3">three</div>
  <div class="box box4">four</div>
  <div class="box box5">five</div>
  <div class="box box6">six</div>
</div>
</body>
<html>
```

It will produce the following result –



Since we have used an inline flex container, it just took the space that is required to wrap its elements.

3. Flexbox – Flex-Direction

The **flex-direction** property is used to specify the direction in which the elements of flex container (flex-items) are needed to be placed.

usage:

```
flex-direction: row | row-reverse | column | column-reverse
```

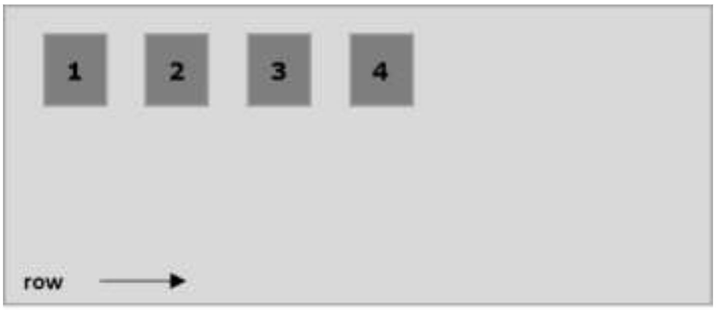
This property accepts four values –

- **row:** Arranges the elements of the container horizontally from left to right.
- **row-reverse:** Arranges the elements of the container horizontally from right to left.
- **column:** Arranges the elements of the container vertically from left to right.
- **column-reverse:** Arranges the elements of the container vertically from right to left.

Now, we will take a few examples to demonstrate the use of the **direction** property.

row

On passing this value to the **direction** property, the elements of the container are arranged horizontally from left to right as shown below.

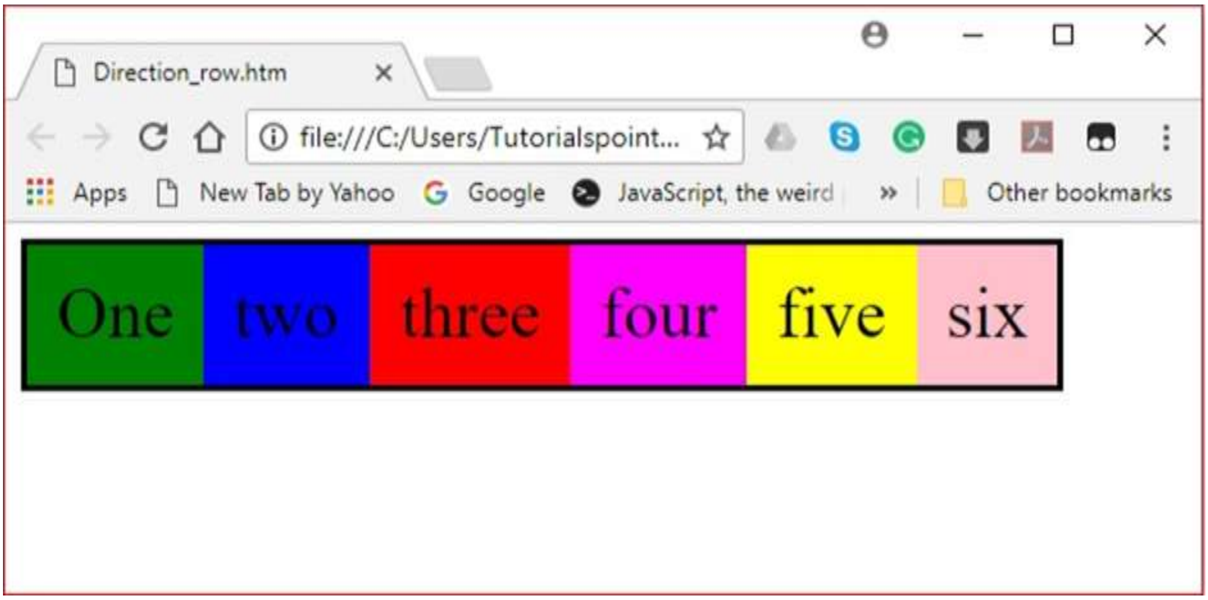


The following example demonstrates the result of passing the value **row** to the *flex-direction* property. Here, we are creating six boxes with different colors with the *flex-direction* value **row**.

```
<!doctype html>
<html lang="en">
<style>
.box1{background:green;}
.box2{background:blue;}
.box3{background:red;}
.box4{background:magenta;}
.box5{background:yellow;}
.box6{background:pink;}
```

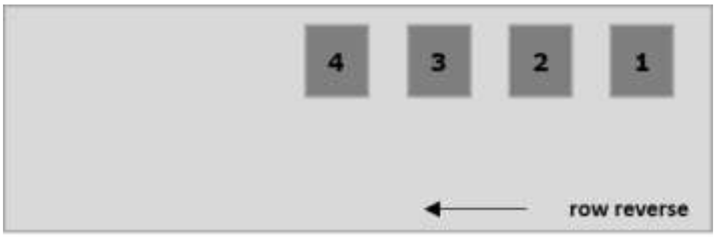
```
.box{
  font-size:35px;
  padding:15px;
}

.container{
   display:inline-flex;
   border:3px solid black;
   flex-direction:row;
}
</style>

<body>
<div class="container">
<div class="box box1">One</div>
<div class="box box2">two</div>
<div class="box box3">three</div>
<div class="box box4">four</div>
<div class="box box5">five</div>
<div class="box box6">six</div>
</div>
</body>

<html>
```

It will produce the following result –



row-reverse

On passing this value to the **direction** property, the elements of the container are arranged horizontally from right to left as shown below.

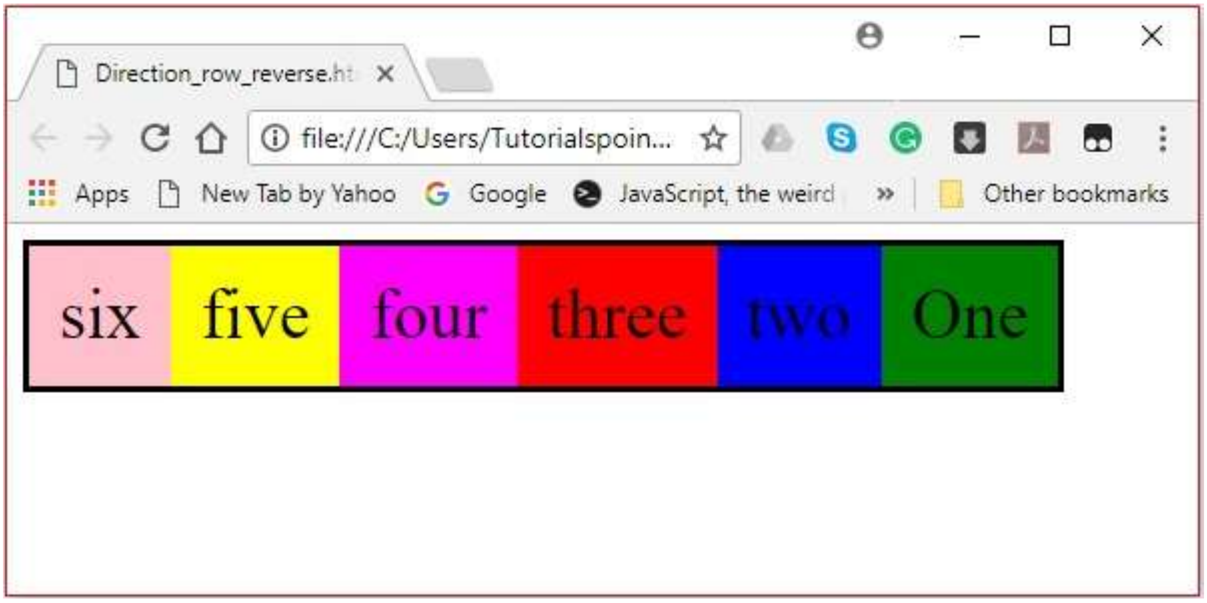


The following example demonstrates the result of passing the value **row-reverse** to the *flex-direction* property. Here, we are creating six boxes with different colors with the *flex-direction* value **row-reverse**.

```
<!doctype html>
<html lang="en">
<style>
.box1{background:green;}
.box2{background:blue;}
.box3{background:red;}
.box4{background:magenta;}
.box5{background:yellow;}
.box6{background:pink;}

.box{
  font-size:35px;
  padding:15px;
}

.container{
   display:inline-flex;
   border:3px solid black;
   flex-direction:row-reverse;
}
</style>
<body>

<div class="container">
<div class="box box1">One</div>
<div class="box box2">two</div>
<div class="box box3">three</div>
<div class="box box4">four</div>
<div class="box box5">five</div>
<div class="box box6">six</div>
```

```
</div>
</body>

<html>
```

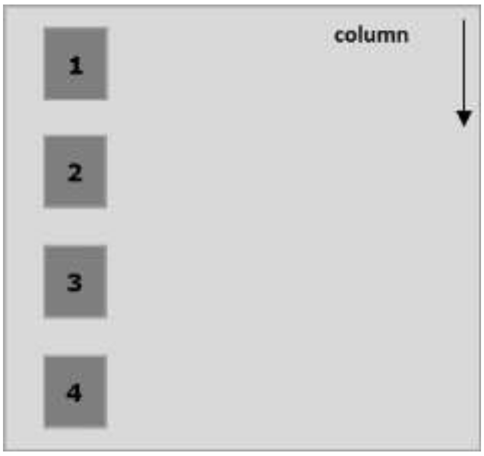
It will produce the following result –



six five four three two One

column

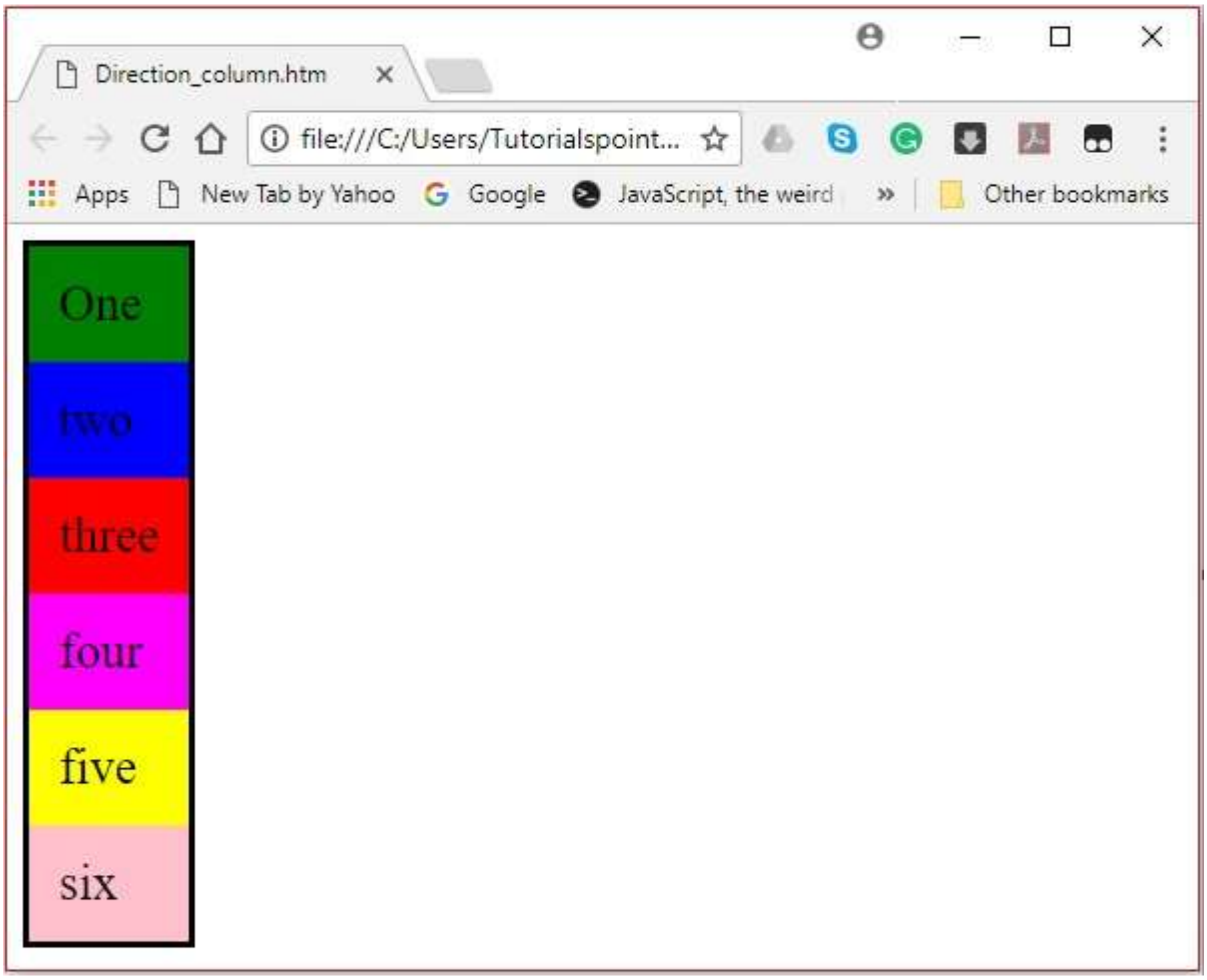
On passing this value to the **direction** property, the elements of the container are arranged vertically from top to bottom as shown below.



The following example demonstrates the result of passing the value **column** to the *flex-direction* property. Here, we are creating six boxes with different colors with the *flex-direction* value **column**.

```
<!doctype html>
<html lang="en">
<style>
.box1{background:green;}
.box2{background:blue;}
.box3{background:red;}
.box4{background:magenta;}
.box5{background:yellow;}
.box6{background:pink;}

.box{

  font-size:35px;
  padding:15px;
}

.container{
   display:inline-flex;
   border:3px solid black;
   flex-direction:column;
}
</style>

<body>
<div class="container">
  <div class="box box1">One</div>
  <div class="box box2">two</div>
  <div class="box box3">three</div>
  <div class="box box4">four</div>
  <div class="box box5">five</div>
  <div class="box box6">six</div>
</div>
</body>

<html>
```

It will produce the following result –



One

two

three

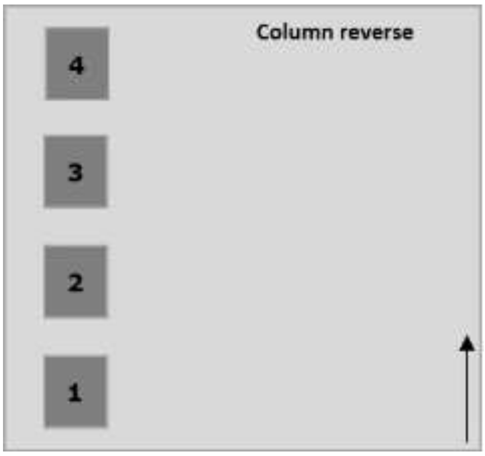
four

five

six

column-reverse

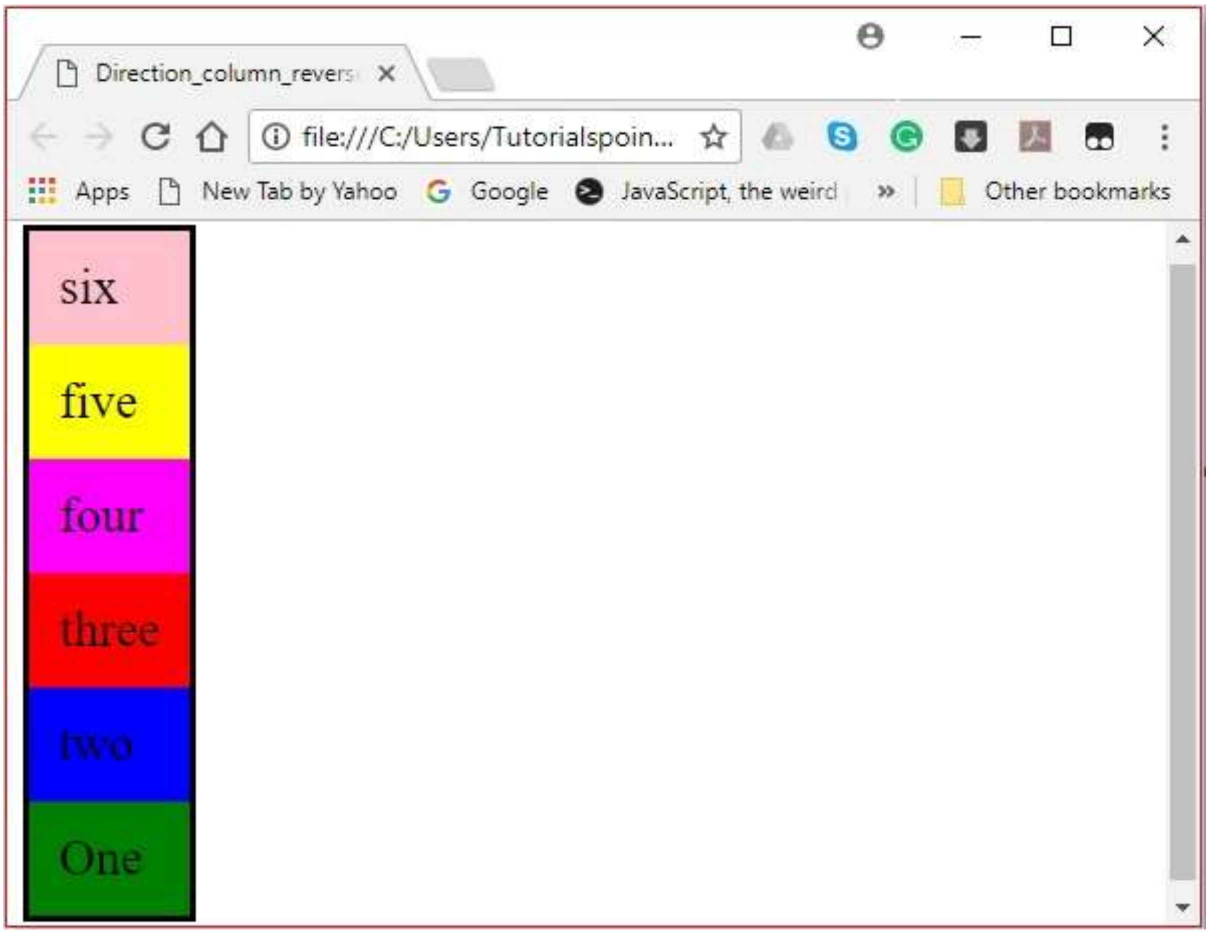
On passing this value to the **direction** property, the elements of the container are arranged vertically from bottom to top as shown below.



The following example demonstrates the result of passing the value **column-reverse** to the *flex-direction* property. Here, we are creating six boxes with different colors with the *flex-direction* value **column-reverse**.

```
<!doctype html>
<html lang="en">
<style>
.box1{background:green;}
.box2{background:blue;}
.box3{background:red;}
.box4{background:magenta;}
.box5{background:yellow;}
.box6{background:pink;}

.box{
  font-size:35px;
  padding:15px;
}

.container{
   display:inline-flex;
   border:3px solid black;
   flex-direction:column-reverse;
}
</style>

<body>
<div class="container">
<div class="box box1">One</div>
<div class="box box2">two</div>
<div class="box box3">three</div>
<div class="box box4">four</div>
<div class="box box5">five</div>
<div class="box box6">six</div>
</div>
</body>

<html>
```

It will produce the following result –



six

five

four

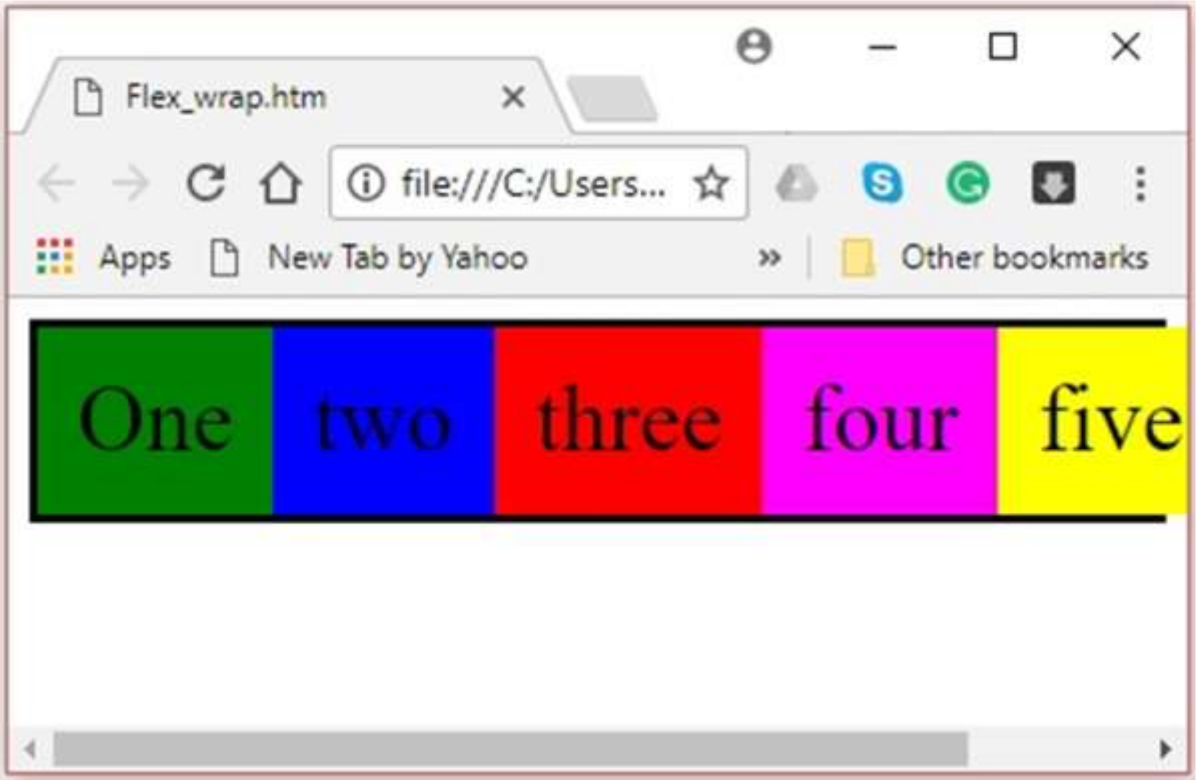
three

two

One

4. Flexbox – Flex-Wrap

Generally, in case of insufficient space for the container, the rest of the flex items will be hidden as shown below.



One two three four five

The **flex-wrap** property is used to specify the controls whether the flex-container is single-line or multi-line.

usage:

```
flex-wrap: nowrap | wrap | wrap-reverse

flex-direction: column | column-reverse
```

This property accepts the following values –

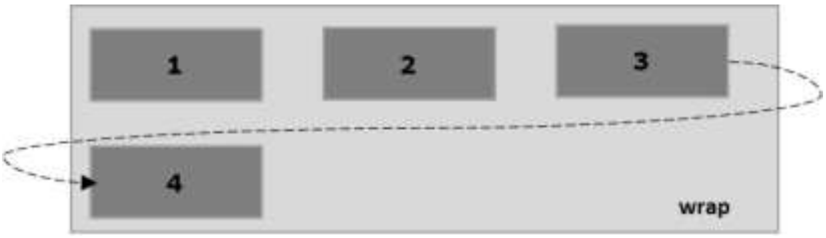
- **wrap:** In case of insufficient space for them, the elements of the container (flex-items) will wrap into additional flex lines from top to bottom.

- **wrap-reverse:** In case of insufficient space for them, the elements of the container (flex-items) will wrap into additional flex lines from bottom to top.

Now, we will see how to use the **wrap** property, with examples.

wrap

On passing the value **wrap** to the property **flex-wrap**, the elements of the container are arranged horizontally from left to right as shown below.

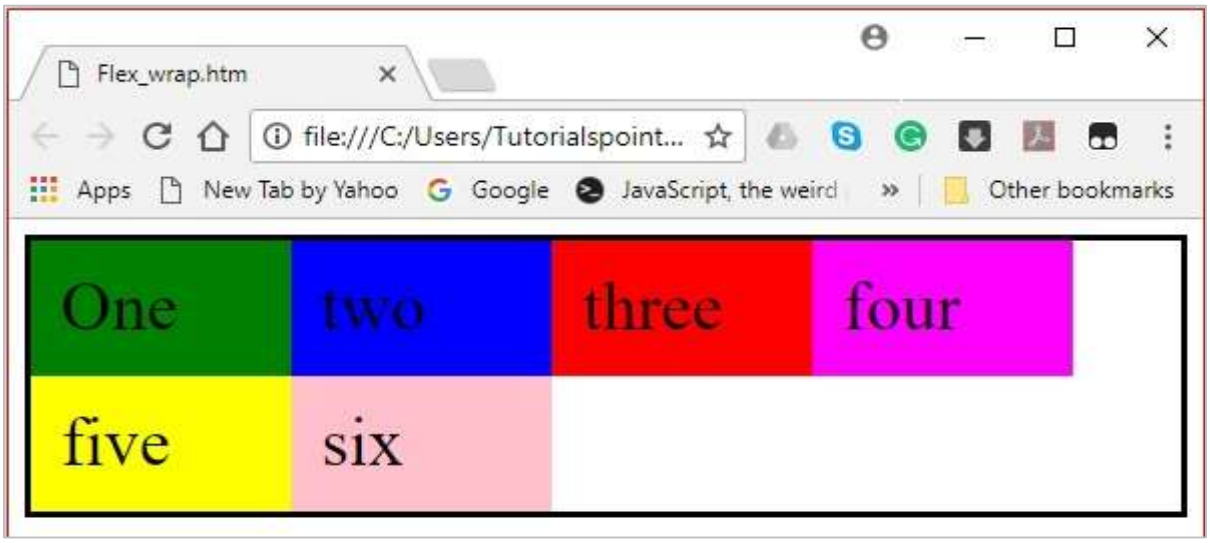


The following example demonstrates the result of passing the value **wrap** to the *flex-wrap* property. Here, we are creating six boxes with different colors with the *flex-direction* value **row**.

```
<!doctype html>
<html lang="en">
<style>
.box1{background:green;}
.box2{background:blue;}
.box3{background:red;}.
.box4{background:magenta;}
.box5{background:yellow;}
.box6{background:pink;}

.box{
  font-size:35px;
  padding:15px;
  width:100px;
}

.container{
   display:flex;
   border:3px solid black;
   flex-direction:row;
   flex-wrap:wrap;
}
</style>

<body>
<div class="container">
<div class="box box1">One</div>
<div class="box box2">two</div>
<div class="box box3">three</div>
<div class="box box4">four</div>
```

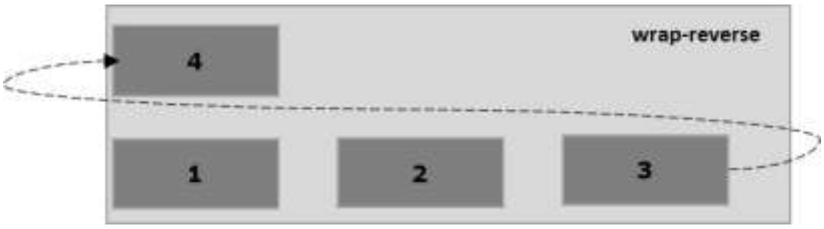
```
<div class="box box5">five</div>
<div class="box box6">six</div>
</div>
</body>

<html>
```

It will produce the following result –



wrap-reverse

On passing the value **wrap-reverse** to the property **flex-wrap**, the elements of the container are arranged horizontally from left to right as shown below.

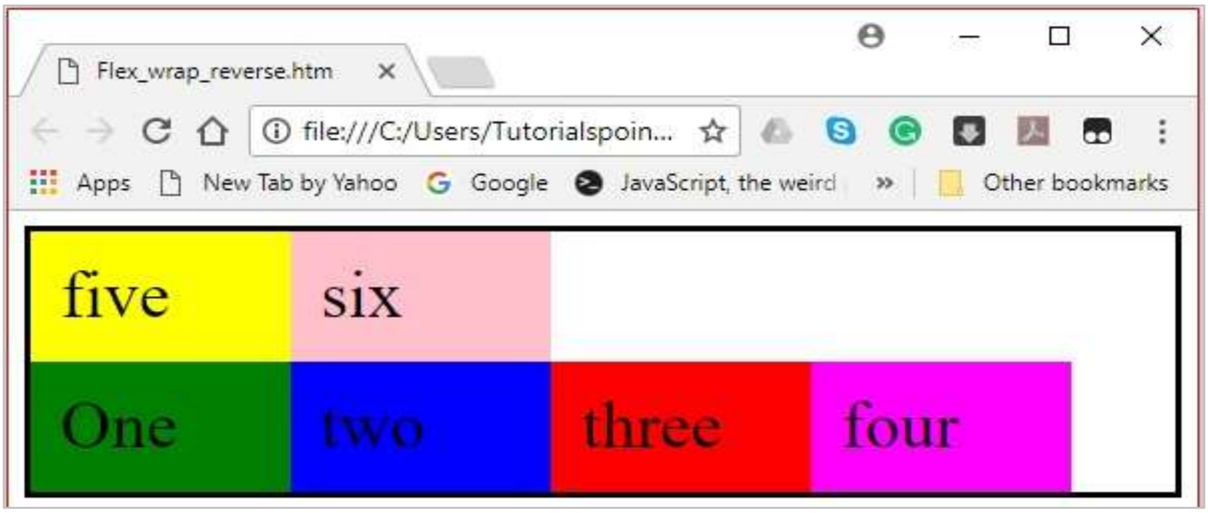


The following example demonstrates the result of passing the value **wrap-reverse** to the *flex-wrap* property. Here, we are creating six boxes with different colors with the *flex-direction* value **row**.

```
<!doctype html>
<html lang="en">
<style>
.box1{background:green;}
.box2{background:blue;}
.box3{background:red;}
.box4{background:magenta;}
```

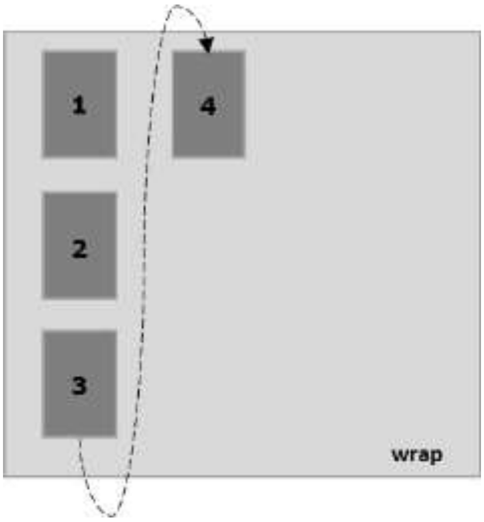
```
.box5{background:yellow;}
.box6{background:pink;}

.box{
  font-size:35px;
  padding:15px;
  width:100px;
}

.container{
   display:flex;
   border:3px solid black;
   flex-direction:row;
   flex-wrap:wrap-reverse;
}
</style>

<body>
<div class="container">
<div class="box box1">One</div>
<div class="box box2">two</div>
<div class="box box3">three</div>
<div class="box box4">four</div>
<div class="box box5">five</div>
<div class="box box6">six</div>
</div>
</body>
<html>
```

It will produce the following result –



wrap (column)

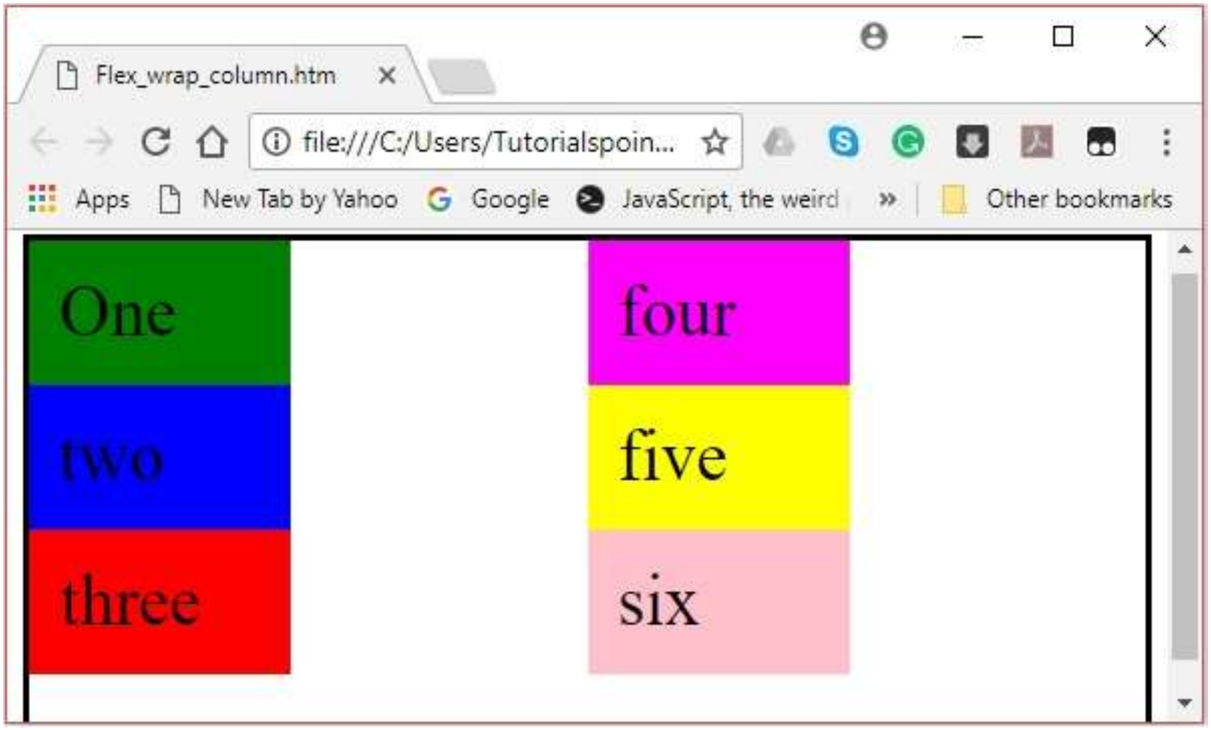
On passing the value **wrap** to the property **flex-wrap** and the value **column** to the property **flex-direction**, the elements of the container are arranged horizontally from left to right as shown below.



The following example demonstrates the result of passing the value **wrap** to the **flex-wrap** property. Here, we are creating six boxes with different colors with the *flex-direction* value **column**.

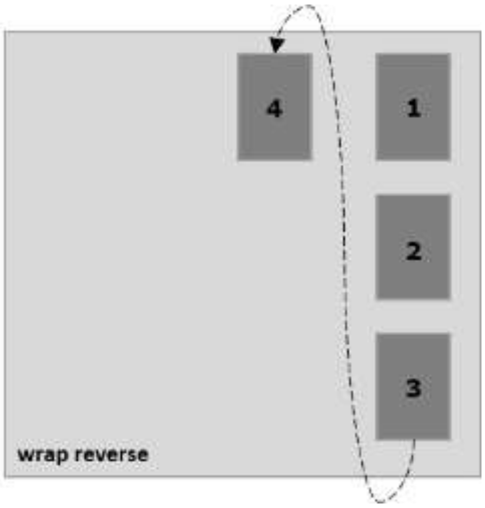
```
<!doctype html>
<html lang="en">
<style>
.box1{background:green;}
.box2{background:blue;}
.box3{background:red;}
.box4{background:magenta;}
.box5{background:yellow;}
.box6{background:pink;}

.box{
  font-size:35px;
  padding:15px;
  width:100px;
}

.container{
   display:flex;
   border:3px solid black;
   flex-direction:column;
   flex-wrap:wrap;
   height:100vh;
}
</style>

<body>
<div class="container">
<div class="box box1">One</div>
<div class="box box2">two</div>
<div class="box box3">three</div>
<div class="box box4">four</div>
<div class="box box5">five</div>
<div class="box box6">six</div>
</div>
</body>

<html>
```

It will produce the following result –



wrap-reverse (column)

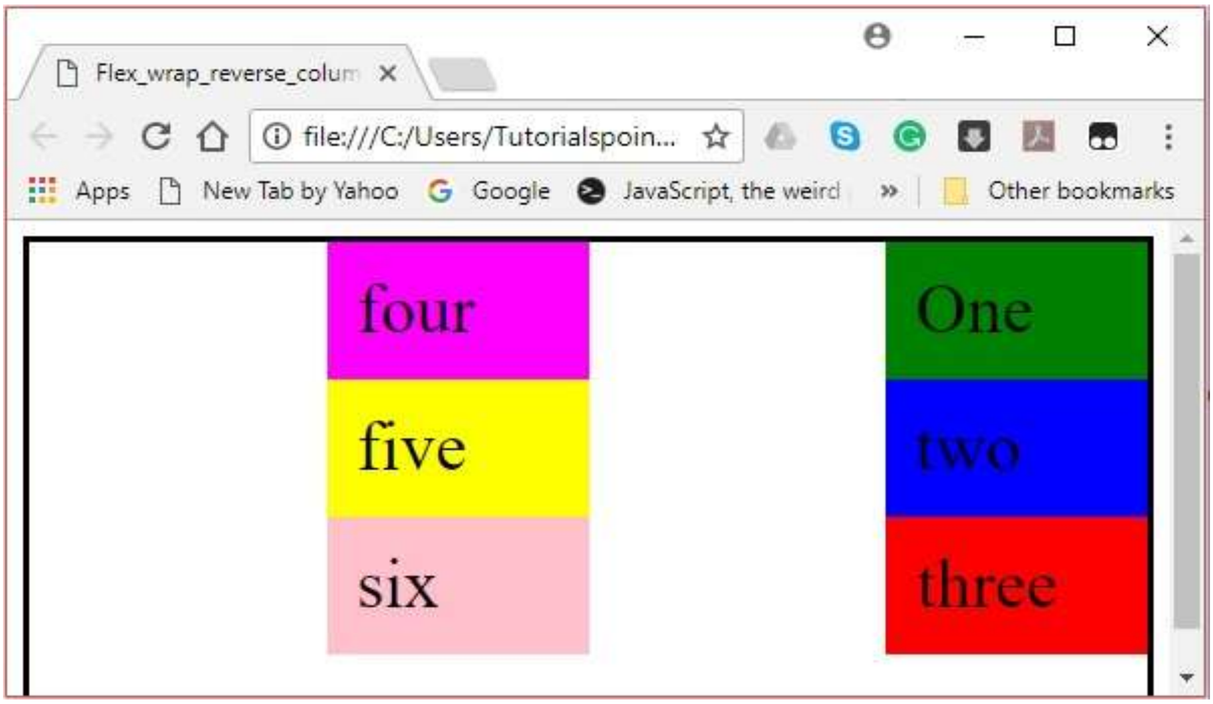
On passing the value **wrap-reverse** to the property **flex-wrap** and the value **column** to the property **flex-direction**, the elements of the container are arranged horizontally from left to right as shown below.



The following example demonstrates the result of passing the value **wrap-reverse** to the *flex-wrap* property. Here, we are creating six boxes with different colors and the with the *flex-direction* value **column**.

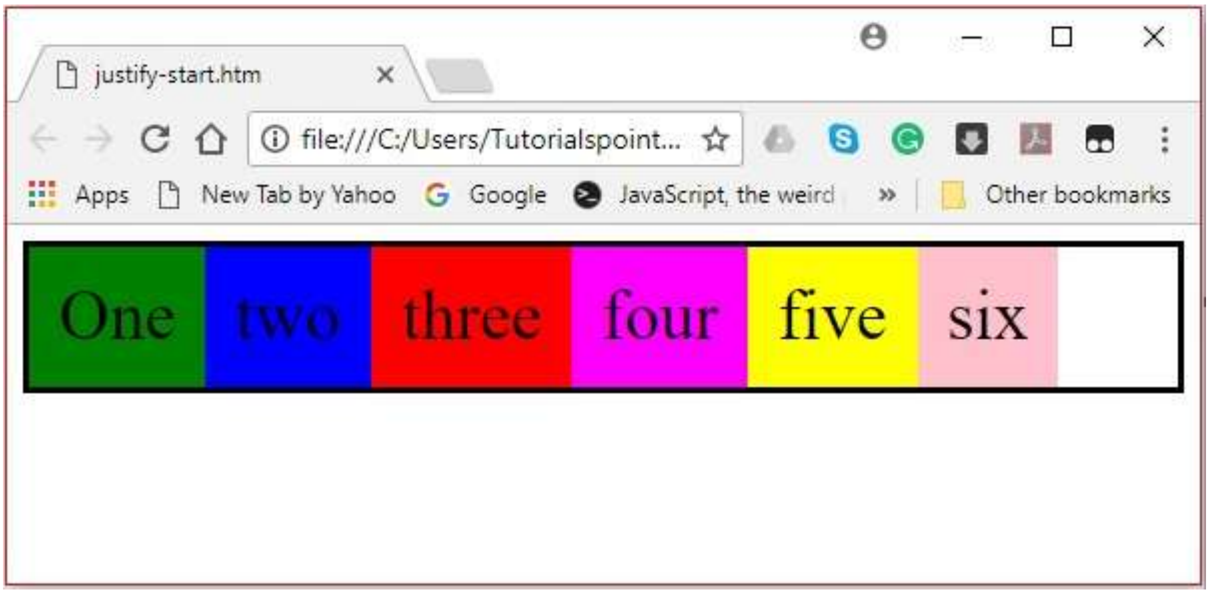
```
<!doctype html>
<html lang="en">
<style>
.box1{background:green;}
.box2{background:blue;}
.box3{background:red;}
.box4{background:magenta;}
.box5{background:yellow;}
.box6{background:pink;}

.box{
  font-size:35px;
  padding:15px;
  width:100px;
}

.container{
   display:flex;
   border:3px solid black;
   flex-direction:column;
   flex-wrap:wrap-reverse;
   height:100vh;
}
</style>

<body>
<div class="container">
<div class="box box1">One</div>
<div class="box box2">two</div>
<div class="box box3">three</div>
<div class="box box4">four</div>
<div class="box box5">five</div>
<div class="box box6">six</div>
</div>
</body>

<html>
```

It will produce the following result –



5. Flexbox – Justifying Contents

Often you can observe an extra space left in the container after arranging the flex items as shown below.



Using the property **justify-content**, you can align the contents along the main axis by distributing the extra space as intended. You can also adjust the alignment of the flex-items, in case they overflow the line.

usage:

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

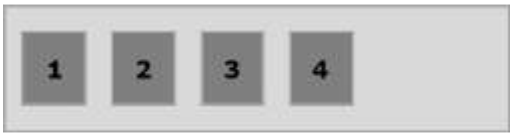
This property accepts the following values –

- **flex-start:** The flex-items are placed at the start of the container.
- **flex-end:** The flex-items are placed at the end of the container.
- **center:** The flex-items are placed at the center of the container, where the extra space is equally distributed at the start and at the end of the flex-items.
- **space-between:** The extra space is equally distributed between the flex-items.
- **space-around:** The extra space is equally distributed between the flex items such that the space between the edges of the container and its contents is half as the space between the flex-items.

Now, we will see how to use the justify-content property, with examples.

flex-start

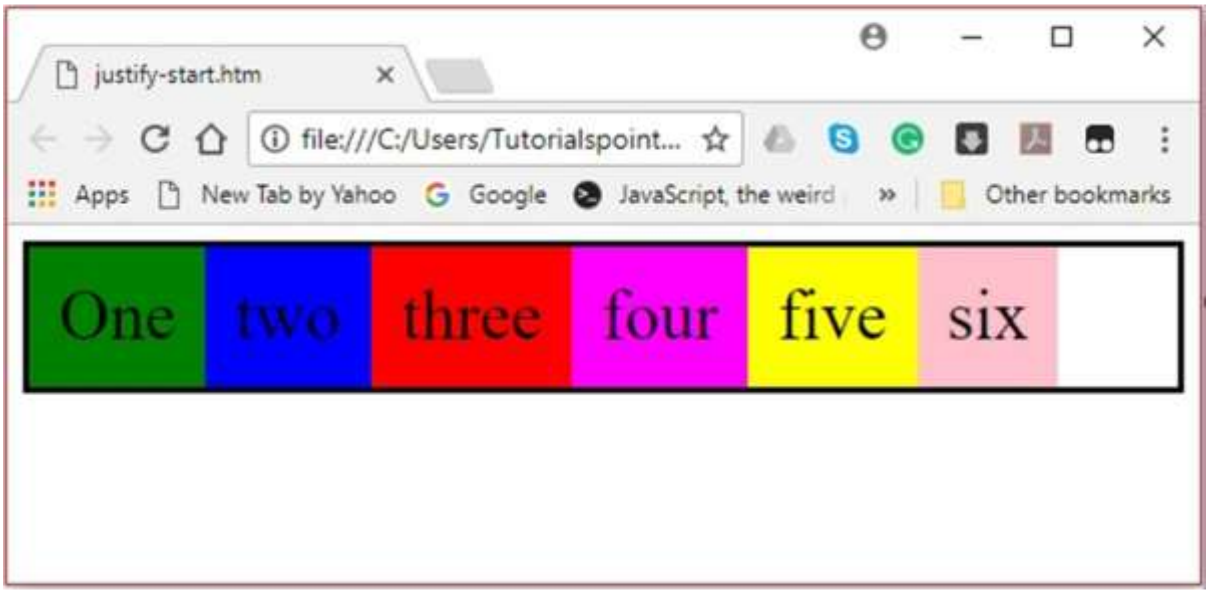
On passing this value to the property **justify-content**, the flex-items are placed at the start of the container.



The following example demonstrates the result of passing the value **flex-start** to the **justify-content** property.

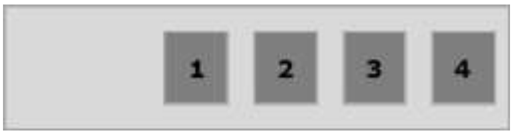
```
<!doctype html>
<html lang="en">
<style>
.box1{background:green;}
.box2{background:blue;}
.box3{background:red;}
.box4{background:magenta;}
.box5{background:yellow;}
.box6{background:pink;}

.box{
  font-size:35px;
  padding:15px;
}

.container{
   display:flex;
   border:3px solid black;
   justify-content:flex-start;
}
</style>

<body>
<div class="container">
<div class="box box1">One</div>
<div class="box box2">two</div>
<div class="box box3">three</div>
<div class="box box4">four</div>
<div class="box box5">five</div>
<div class="box box6">six</div>
</div>
</body>
<html>
```

It will produce the following result –



flex-end

On passing this value to the property **justify-content**, the flex-items are placed at the end of the container.

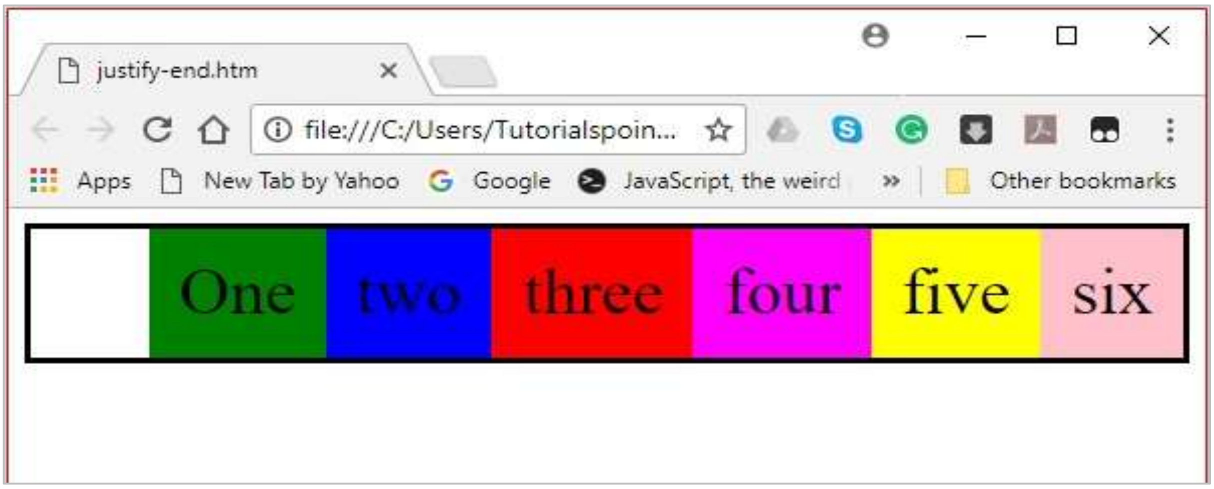


The following example demonstrates the result of passing the value **flex-end** to the **justify-content** property.

```
<!doctype html>
<html lang="en">
<style>
.box1{background:green;}
.box2{background:blue;}
.box3{background:red;}
.box4{background:magenta;}
.box5{background:yellow;}
.box6{background:pink;}

.box{
  font-size:35px;
  padding:15px;
}
```

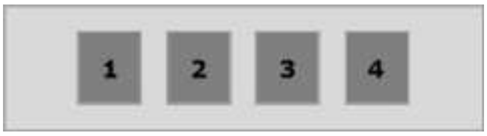
```
.container{
   display:flex;
   border:3px solid black;
   justify-content:flex-end;
}
</style>

<body>
<div class="container">
<div class="box box1">One</div>
<div class="box box2">two</div>
<div class="box box3">three</div>
<div class="box box4">four</div>
<div class="box box5">five</div>
<div class="box box6">six</div>
</div>
</body>

<html>
```

It will produce the following result –



center

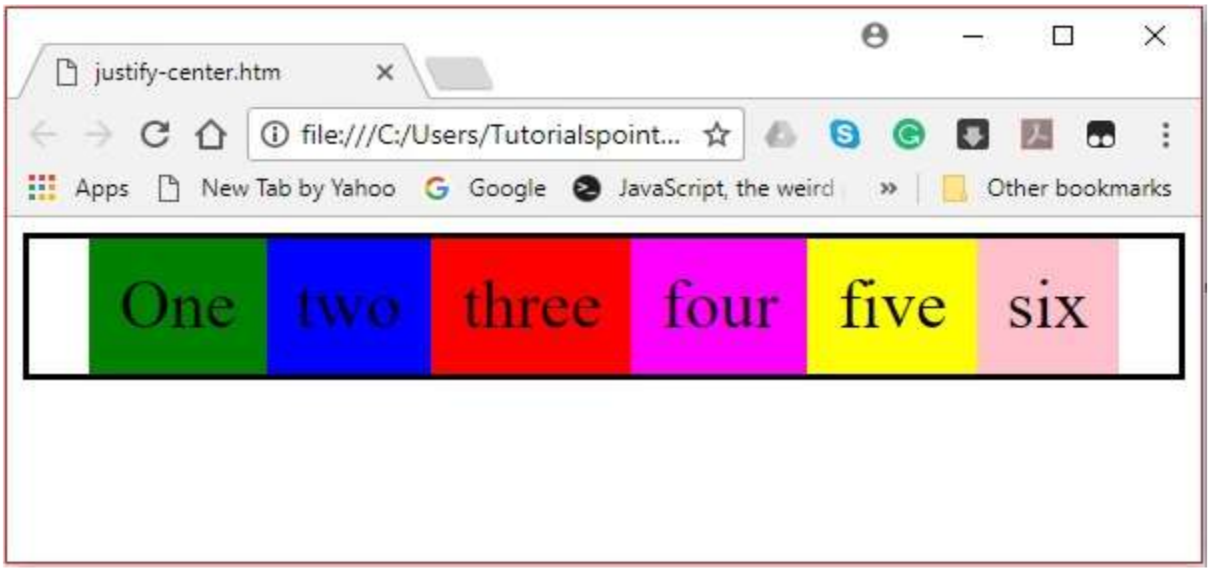
On passing this value to the property **justify-content**, the flex-items are placed at the center of the container, where the extra space is equally distributed at the start and at the end of the flex-items.



The following example demonstrates the result of passing the value **center** to the **justify-content** property.

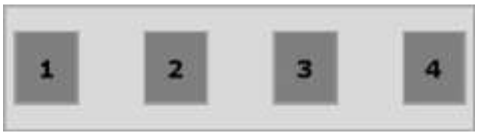
```
<!doctype html>
<html lang="en">
<style>
.box1{background:green;}
.box2{background:blue;}
.box3{background:red;}
.box4{background:magenta;}
.box5{background:yellow;}
.box6{background:pink;}

.box{
  font-size:35px;
  padding:15px;
}

.container{
   display:flex;
   border:3px solid black;
   justify-content:center;
}
</style>

<body>
<div class="container">
<div class="box box1">One</div>
<div class="box box2">two</div>
<div class="box box3">three</div>
<div class="box box4">four</div>
<div class="box box5">five</div>
<div class="box box6">six</div>
</div>
</body>

<html>
```

It will produce the following result –



space-between

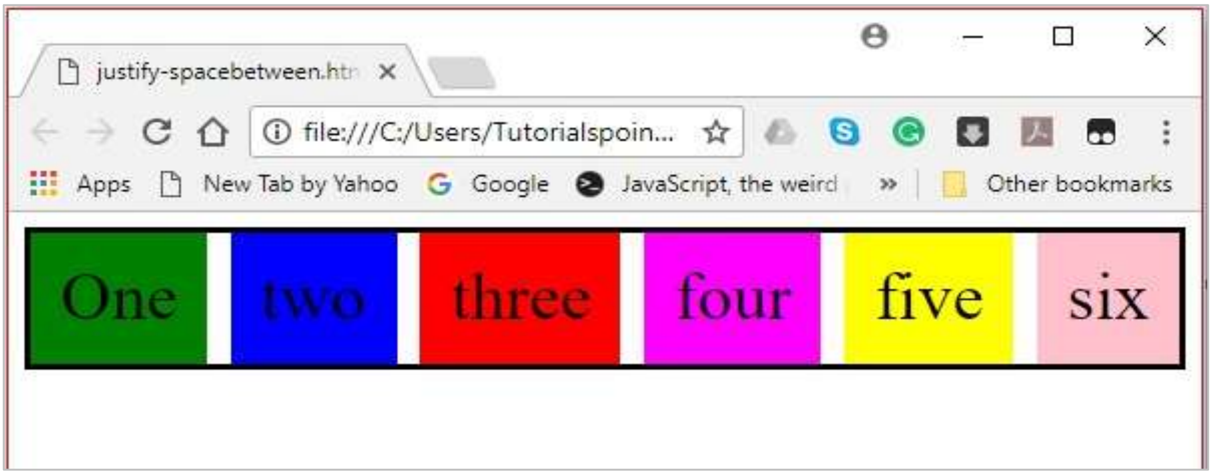
On passing this value to the property **justify-content**, the extra space is equally distributed between the flex items such that the space between any two flex-items is the same and the start and end of the flex-items touch the edges of the container.



The following example demonstrates the result of passing the value **space-between** to the **justify-content** property.

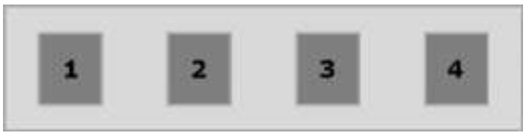
```
<!doctype html>
<html lang="en">
<style>
.box1{background:green;}
.box2{background:blue;}
.box3{background:red;}
.box4{background:magenta;}
.box5{background:yellow;}
.box6{background:pink;}

.box{
  font-size:35px;
  padding:15px;
}

.container{
    display:flex;
    border:3px solid black;
    justify-content:space-between;
}
</style>

<body>
<div class="container">
<div class="box box1">One</div>
<div class="box box2">two</div>
<div class="box box3">three</div>
<div class="box box4">four</div>
<div class="box box5">five</div>
<div class="box box6">six</div>
</div>
</body>

<html>
```

It will produce the following result –



space-around

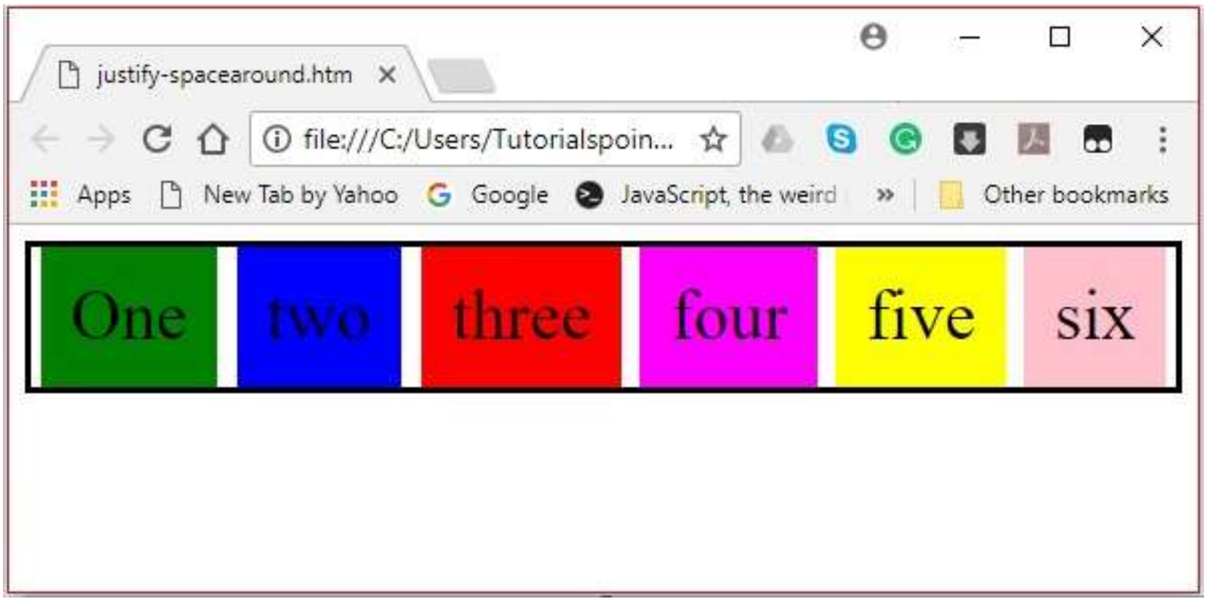
On passing this value to the property **justify-content**, the extra space is equally distributed between the flex-items such that the space between any two flex-items is the same. However, the space between the edges of the container and its contents (the start and end of the flex-items) is half as the space between the flex items.



The following example demonstrates the result of passing the value **space-around** to the **justify-content** property.

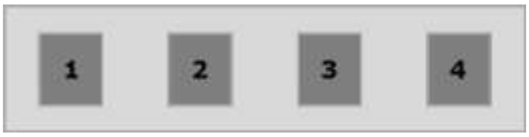
```
<!doctype html>
<html lang="en">
<style>
.box1{background:green;}
.box2{background:blue;}
.box3{background:red;}
.box4{background:magenta;}
.box5{background:yellow;}
.box6{background:pink;}

.box{
  font-size:35px;
  padding:15px;
}

.container{
   display:flex;
   border:3px solid black;
   justify-content:space-around;
}
</style>

<body>
<div class="container">
<div class="box box1">One</div>
<div class="box box2">two</div>
<div class="box box3">three</div>
<div class="box box4">four</div>
<div class="box box5">five</div>
<div class="box box6">six</div>
</div>
</body>

<html>
```

It will produce the following result –



space-evenly

On passing this value to the property **justify-content**, the extra space is equally distributed between the flex-items such that the space between any two flex-items is the same (including the space to the edges).

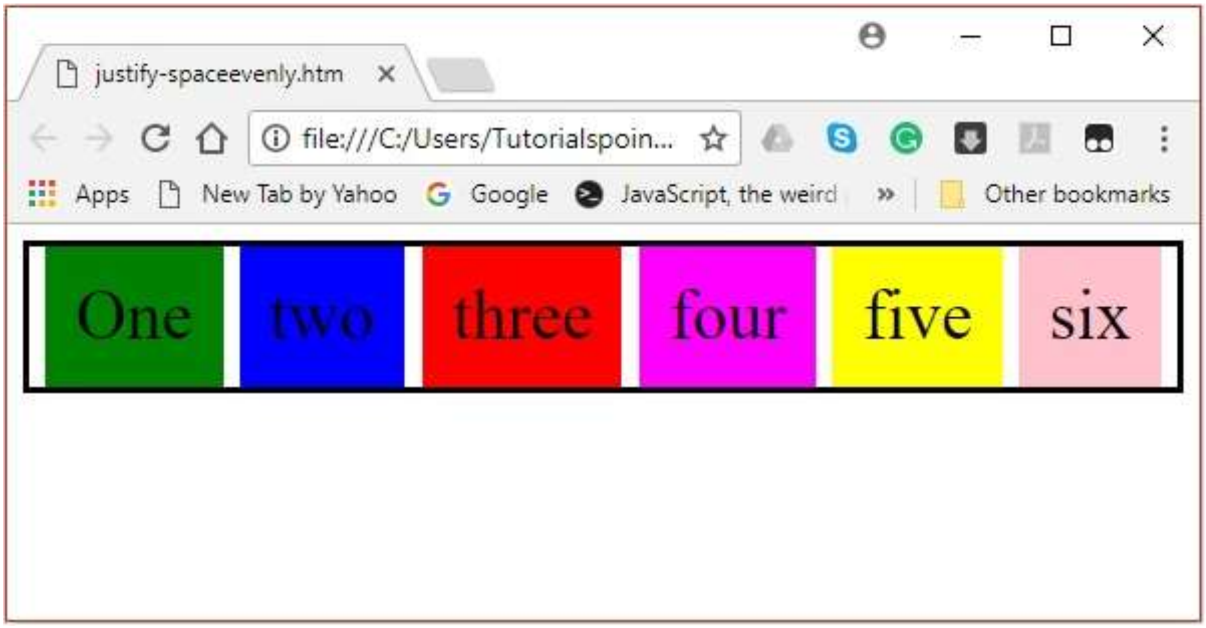


The following example demonstrates the result of passing the value **space-evenly** to the **justify-content** property.

```
<!doctype html>
<html lang="en">
<style>
.box1{background:green;}
.box2{background:blue;}
.box3{background:red;}
.box4{background:magenta;}
.box5{background:yellow;}
.box6{background:pink;}

.box{
  font-size:35px;
  padding:15px;
}
```

```
.container{
   display:flex;
   border:3px solid black;
   justify-content:space-evenly;
}
</style>

<body>
<div class="container">
<div class="box box1">One</div>
<div class="box box2">two</div>
<div class="box box3">three</div>
<div class="box box4">four</div>
<div class="box box5">five</div>
<div class="box box6">six</div>
</div>
</body>

<html>
```

It will produce the following result –



One two three four five six

6. Flexbox – Align Items

The **align-items** property is same as **justify content**. But here, the items were aligned across the cross access (vertically).

Usage:

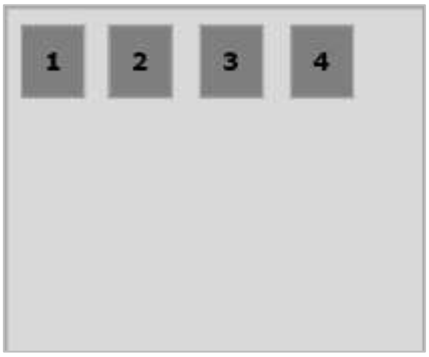
```
align-items: flex-start | flex-end | center | baseline | stretch;
```

This property accepts the following values –

- **flex-start:** The flex items were aligned vertically at the top of the container.
- **flex-end:** The flex items were aligned vertically at the bottom of the container.
- **flex-center:** The flex items were aligned vertically at the center of the container.
- **stretch:** The flex items were aligned vertically such that they fill up the whole vertical space of the container.
- **baseline:** The flex items were aligned such that the baseline of their text align along a horizontal line.

flex-start

On passing this value to the property align-items, the flex items were aligned vertically at the top of the container.

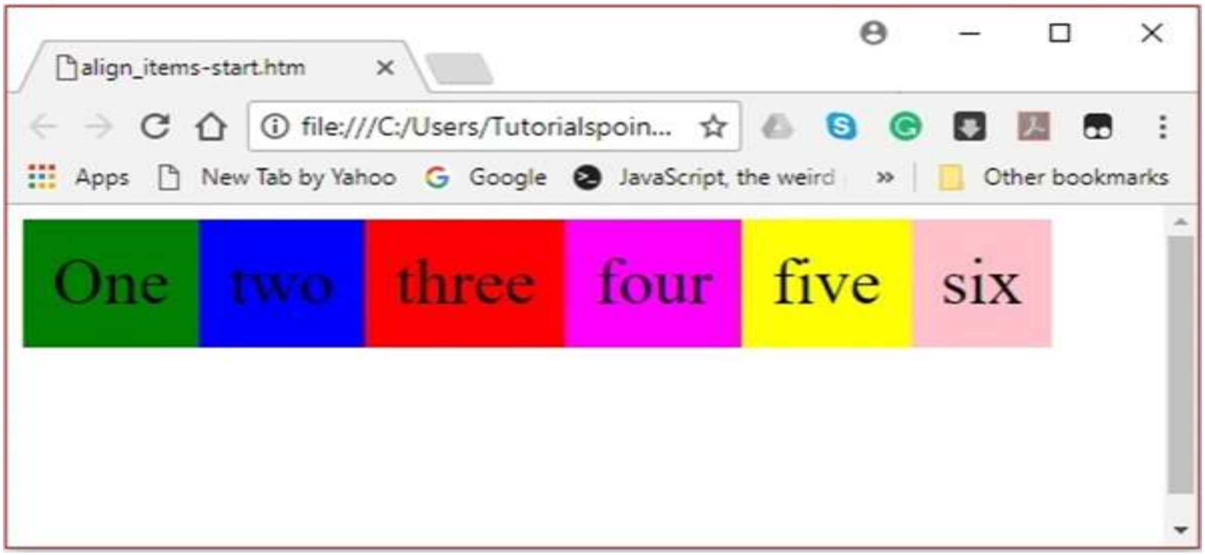


The following example demonstrates the result of passing the value **flex-start** to the **align-items** property.

```
<!doctype html>
<html lang="en">
<style>
.box1{background:green;}
.box2{background:blue;}
.box3{background:red;}
.box4{background:magenta;}
```

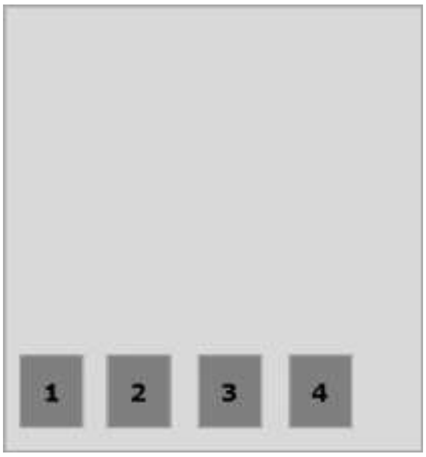
```
.box5{background:yellow;}
.box6{background:pink;}

.box{
  font-size:35px;
  padding:15px;
}

.container{
   display:flex;
   height:100vh;
   align-items:flex-start;
}
</style>

<body>
<div class="container">
<div class="box box1">One</div>
<div class="box box2">two</div>
<div class="box box3">three</div>
<div class="box box4">four</div>
<div class="box box5">five</div>
<div class="box box6">six</div>
</div>
</body>

<html>
```

It will produce the following result –



flex-end

On passing this value to the property **align-items**, the flex-items are aligned vertically at the bottom of the container.

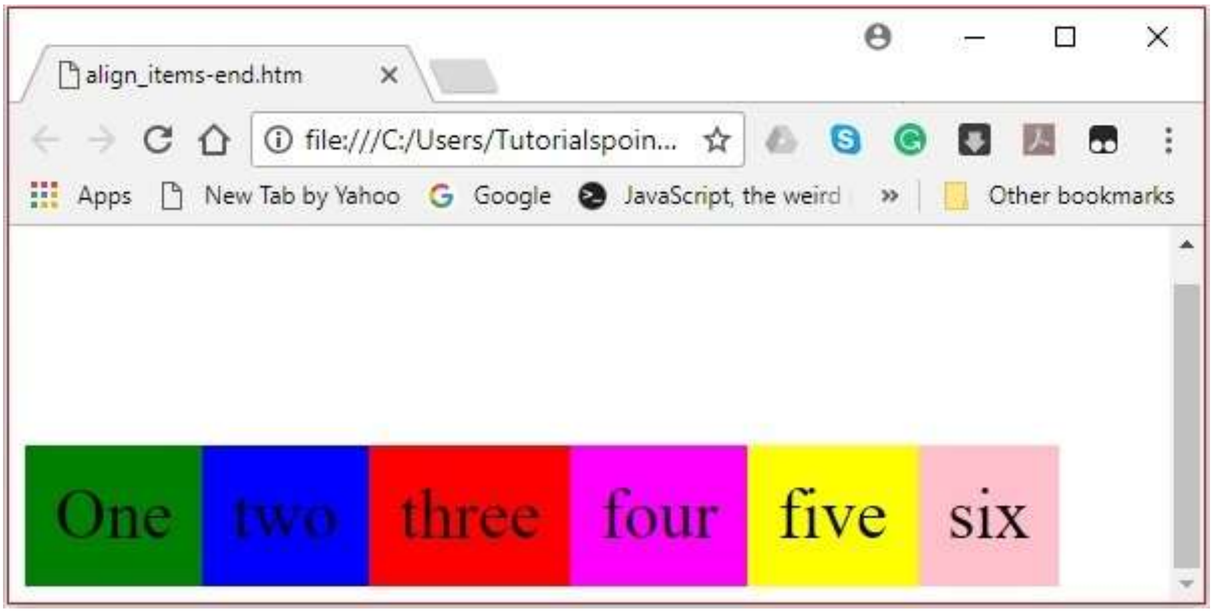


The following example demonstrates the result of passing the value **flex-end** to the **align-items** property.

```
<!doctype html>
<html lang="en">
<style>
.box1{background:green;}
.box2{background:blue;}
.box3{background:red;}
.box4{background:magenta;}
.box5{background:yellow;}
.box6{background:pink;}

.box{
  font-size:35px;
  padding:15px;
}

.container{
   display:flex;
   height:100vh;
   align-items:flex-end;
}

</style>
<body>
<div class="container">
<div class="box box1">One</div>
<div class="box box2">two</div>
```

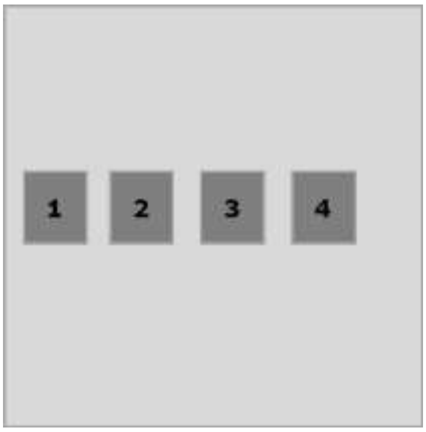
```
<div class="box box3">three</div>
<div class="box box4">four</div>
<div class="box box5">five</div>
<div class="box box6">six</div>
</div>
</body>

<html>
```

It will produce the following result –



center

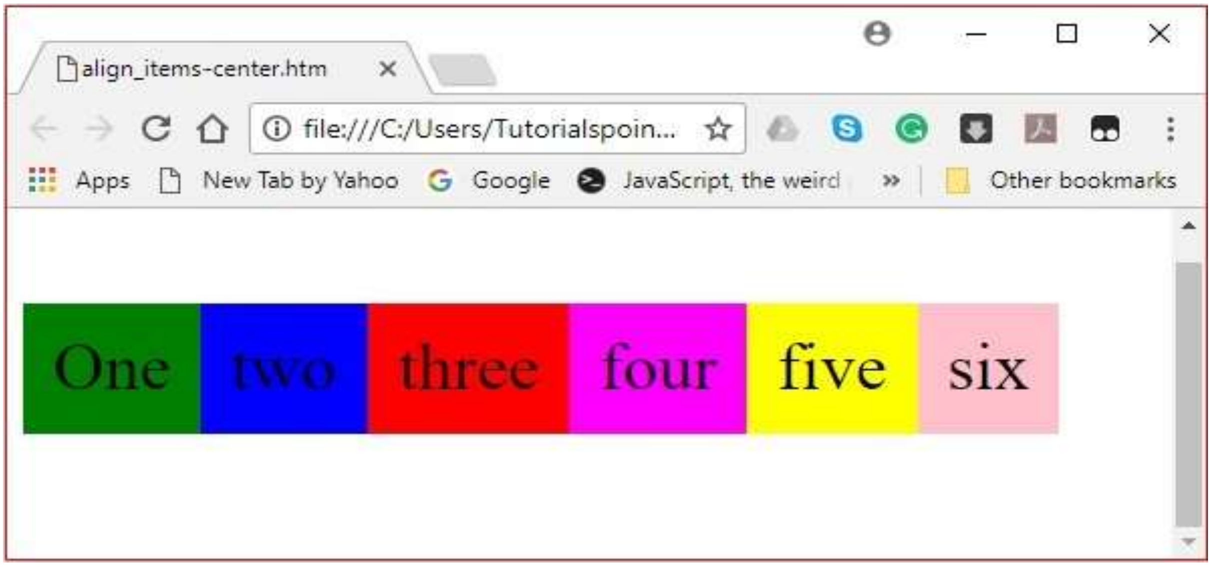
On passing this value to the property **align-items**, the flex-items are aligned vertically at the center of the container.



The following example demonstrates the result of passing the value **flex-center** to the **align-items** property.

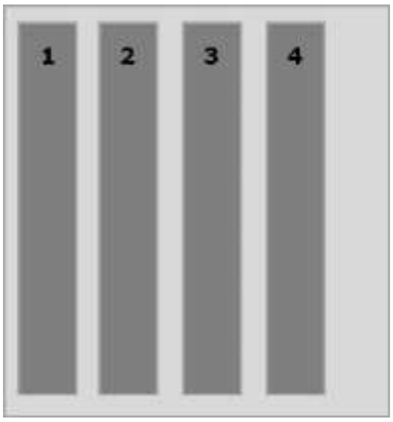
```
<!doctype html>
<html lang="en">
<style>
.box1{background:green;}
.box2{background:blue;}
.box3{background:red;}
.box4{background:magenta;}
.box5{background:yellow;}
.box6{background:pink;}

.box{
  font-size:35px;
  padding:15px;
}

.container{
   display:flex;
   height:100vh;
   align-items:center;
}
</style>

<body>
<div class="container">
<div class="box box1">One</div>
<div class="box box2">two</div>
<div class="box box3">three</div>
<div class="box box4">four</div>
<div class="box box5">five</div>
<div class="box box6">six</div>
</div>
</body>

<html>
```

It will produce the following result –



stretch

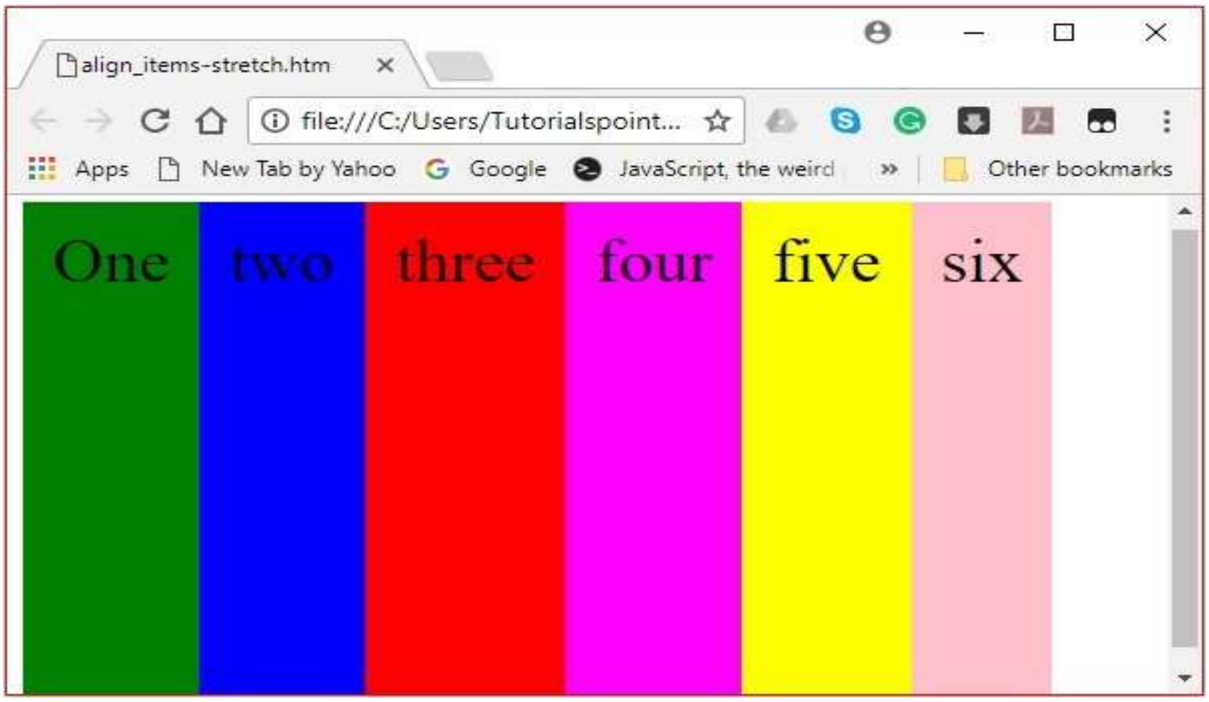
On passing this value to the property **align-items**, the flex-items are aligned vertically such that they fill up the whole vertical space of the container.



The following example demonstrates the result of passing the value **stretch** to the **align-items** property.

```
<!doctype html>
<html lang="en">
<style>
.box1{background:green;}
.box2{background:blue;}
.box3{background:red;}
.box4{background:magenta;}
.box5{background:yellow;}
.box6{background:pink;}
.box{
  font-size:35px;
  padding:15px;
}

.container{
   display:flex;
   height:100vh;
   align-items:stretch;
}
</style>

<body>
<div class="container">
<div class="box box1">One</div>
<div class="box box2">two</div>
<div class="box box3">three</div>
<div class="box box4">four</div>
<div class="box box5">five</div>
<div class="box box6">six</div>
</div>
</body>

<html>
```

It will produce the following result –



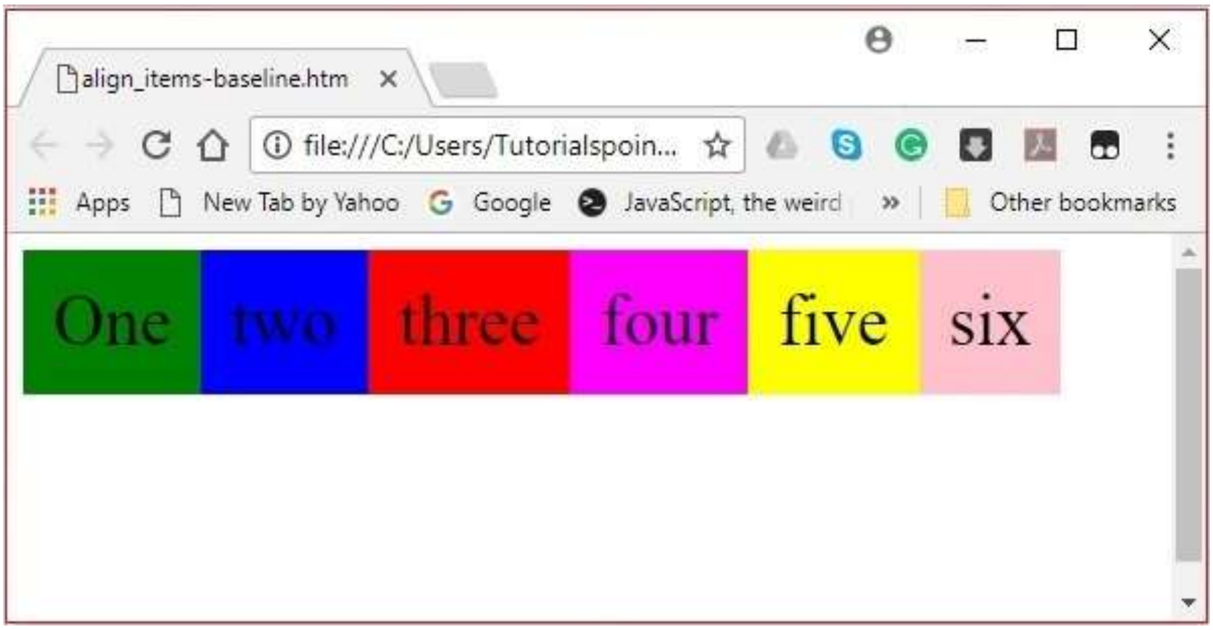
baseline

On passing this value to the property **align-items**, the flex-items are aligned such that the baseline of their text align along a horizontal line.

The following example demonstrates the result of passing the value **baseline** to the **align-items** property.

```
<!doctype html>
<html lang="en">
<style>
.box1{background:green;}
.box2{background:blue;}
.box3{background:red;}
.box4{background:magenta;}
.box5{background:yellow;}
.box6{background:pink;}

.box{
  font-size:35px;
  padding:15px;
}

.container{
   display:flex;
   height:100vh;
   align-items:baseline;
}
</style>

<body>
<div class="container">
<div class="box box1">One</div>
<div class="box box2">two</div>
<div class="box box3">three</div>
<div class="box box4">four</div>
<div class="box box5">five</div>
<div class="box box6">six</div>
</div>
</body>

<html>
```

It will produce the following result –



One two three four five six

7. Flexbox – Align Content

In case the flex-container has multiple lines (when, flex-wrap: wrap), the align-content property defines the alignment of each line within the container.

Usage:

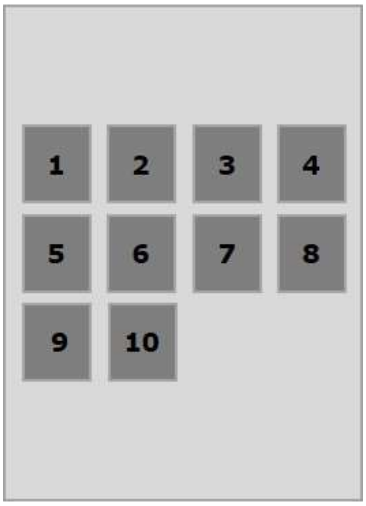
```
align-content: flex-start | flex-end | center | space-between | space-around | stretch;
```

This property accepts the following values –

- **stretch:** The lines in the content will stretch to fill up the remaining space.
- **flex-start:** All the lines in the content are packed at the start of the container.
- **flex-end:** All the lines in the content are packed at the end of the container.
- **center:** All the lines in the content are packed at the center of the container.
- **space-between:** The extra space is distributed between the lines evenly.
- **space-around:** The extra space is distributed between the lines evenly with equal space around each line (including the first and last lines)

center

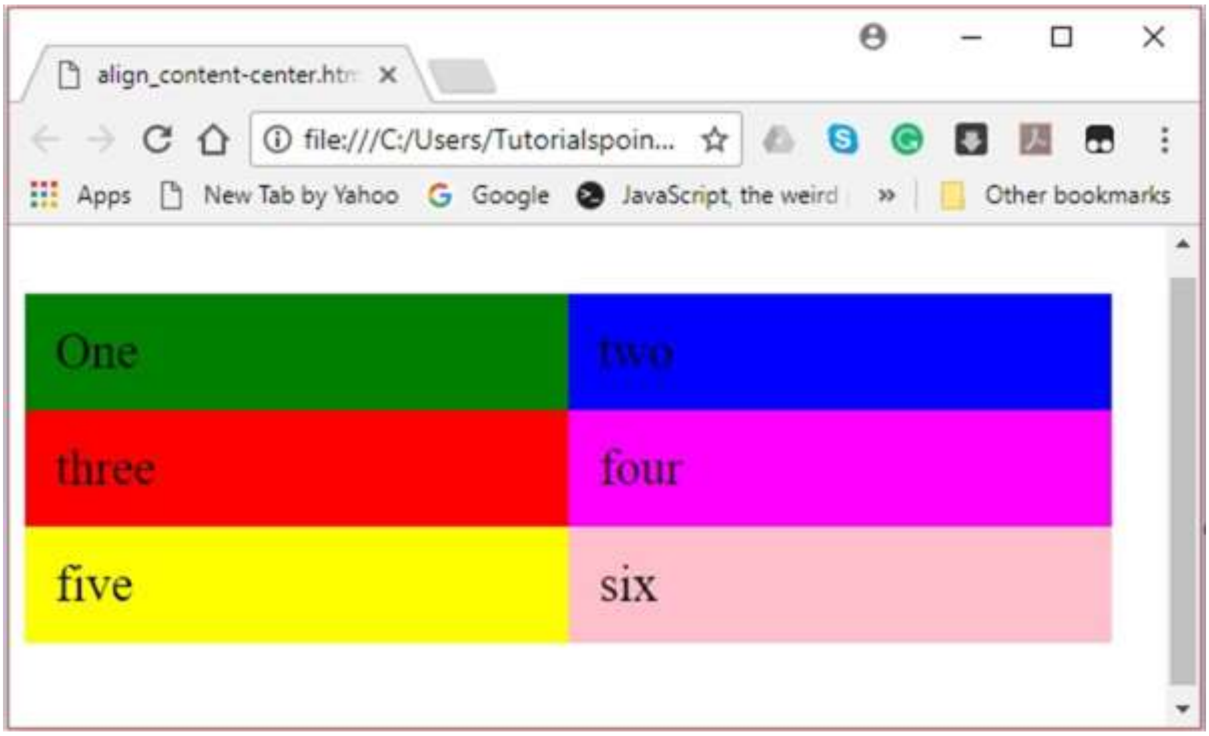
On passing this value to the property **align-content**, all the lines are packed at the center of the container.



The following example demonstrates the result of passing the value **center** to the **align-content** property.

```
<!doctype html>
<html lang="en">
<style>
.box1{background:green;}
.box2{background:blue;}
.box3{background:red;}
.box4{background:magenta;}
.box5{background:yellow;}
.box6{background:pink;}

.box{
  font-size:25px;
  padding:15px;
  width:43%;
}

.container{
   display:flex;
   height:100vh;
   flex-wrap:wrap;
   align-content:center;
}
</style>

<body>
<div class="container">
<div class="box box1">One</div>
<div class="box box2">two</div>
<div class="box box3">three</div>
<div class="box box4">four</div>
<div class="box box5">five</div>
<div class="box box6">six</div>
</div>
</body>

<html>
```

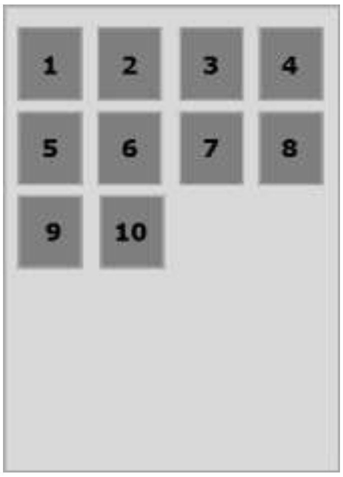
It will produce the following result –



One two
three four
five six

flex-start

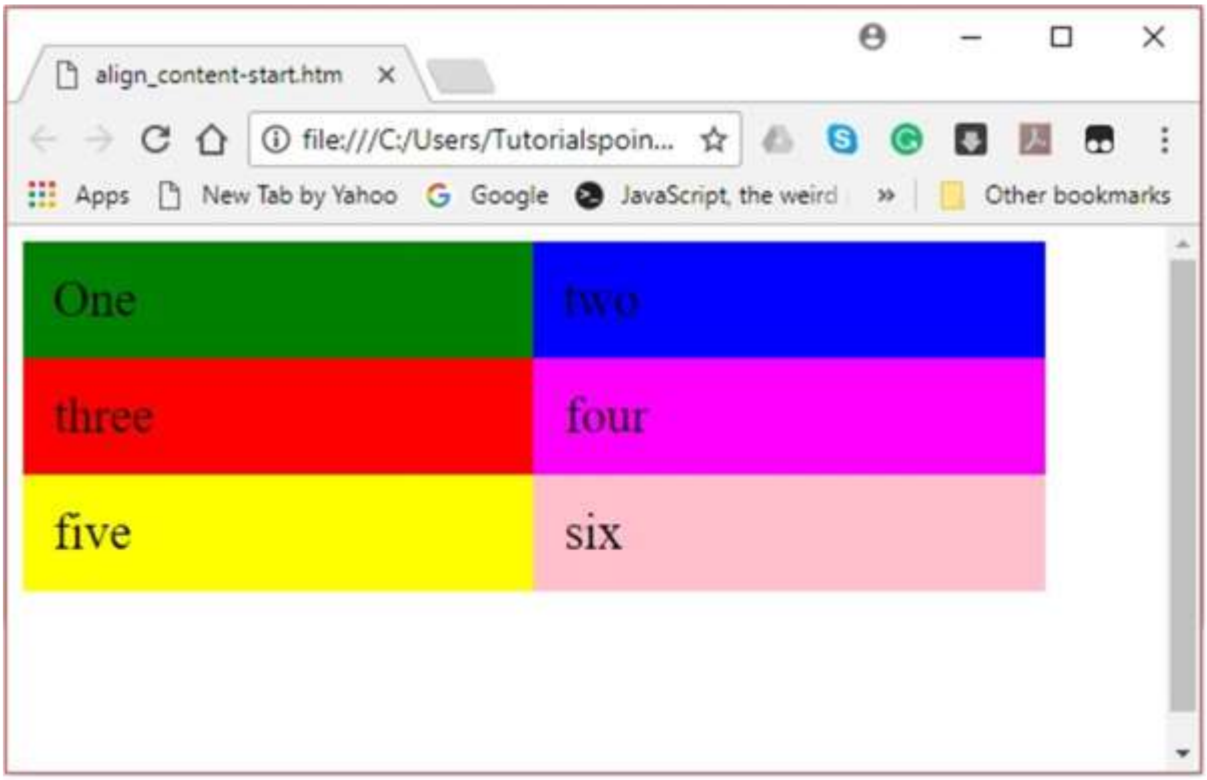
On passing this value to the property **align-content**, all the lines are packed at the start of the container.



The following example demonstrates the result of passing the value **flex-start** to the **align-content** property.

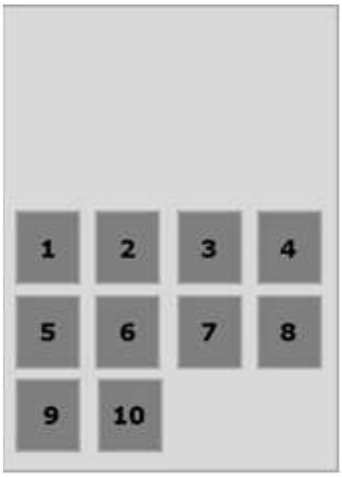
```
<!doctype html>
<html lang="en">
<style>
.box1{background:green;}
.box2{background:blue;}
.box3{background:red;}
.box4{background:magenta;}
.box5{background:yellow;}
.box6{background:pink;}

.box{
  font-size:25px;
  padding:15px;
  width:40%;
}

.container{
   display:flex;
   height:100vh;
   flex-wrap:wrap;
   align-content:flex-start;
}
</style>

<body>
<div class="container">
<div class="box box1">One</div>
<div class="box box2">two</div>
<div class="box box3">three</div>
<div class="box box4">four</div>
<div class="box box5">five</div>
<div class="box box6">six</div>
</div>
</body>

<html>
```

It will produce the following result –



flex-end

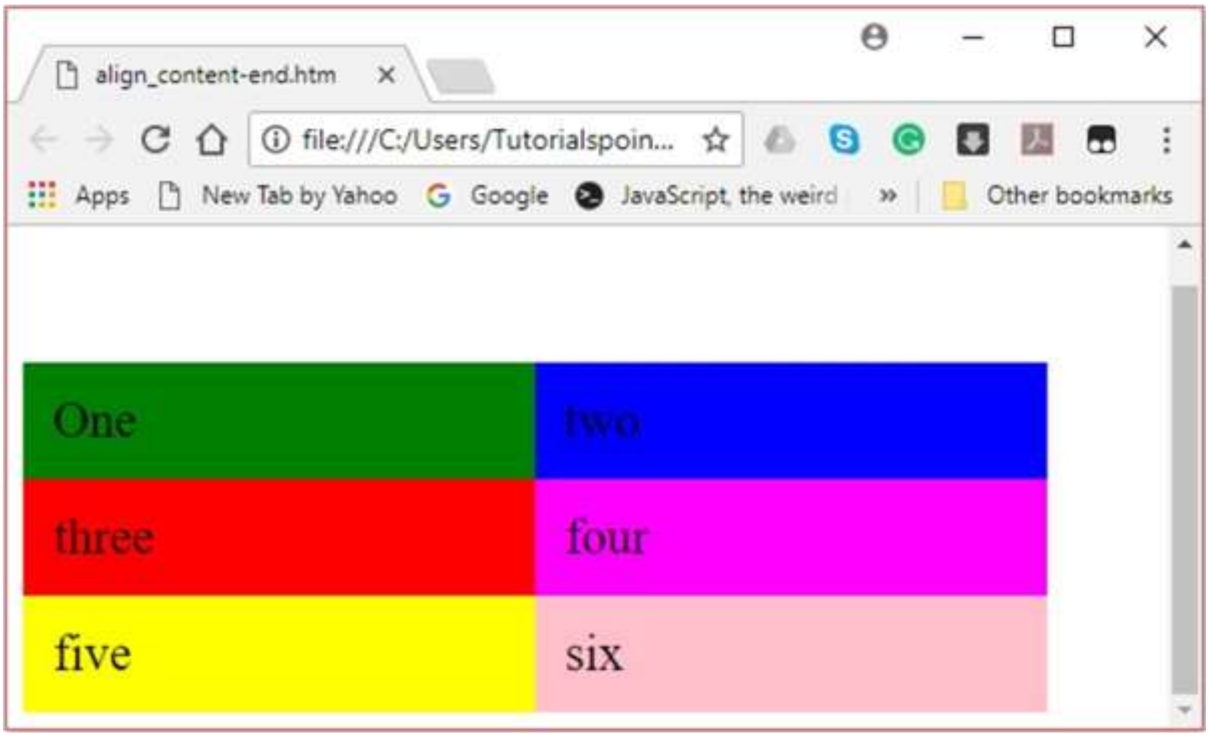
On passing this value to the property **align-content**, all the lines are packed at the end of the container.



The following example demonstrates the result of passing the value **flex-end** to the **align-content** property.

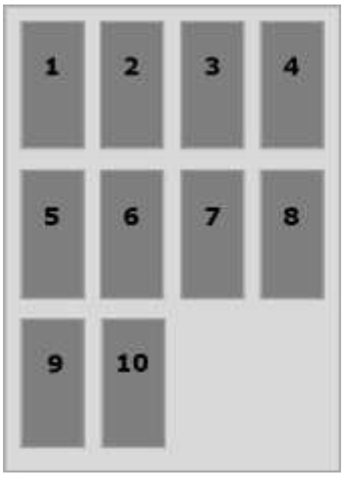
```
<!doctype html>
<html lang="en">
<style>
.box1{background:green;}
.box2{background:blue;}
.box3{background:red;}
.box4{background:magenta;}
.box5{background:yellow;}
.box6{background:pink;}

.box{
  font-size:25px;
  padding:15px;
  width:40%;
}

.container{
   display:flex;
   height:100vh;
   flex-wrap:wrap;
   align-content:flex-end;
}
</style>

<body>
<div class="container">
<div class="box box1">One</div>
<div class="box box2">two</div>
<div class="box box3">three</div>
<div class="box box4">four</div>
<div class="box box5">five</div>
<div class="box box6">six</div>
</div>
</body>

<html>
```

It will produce the following result –



stretch

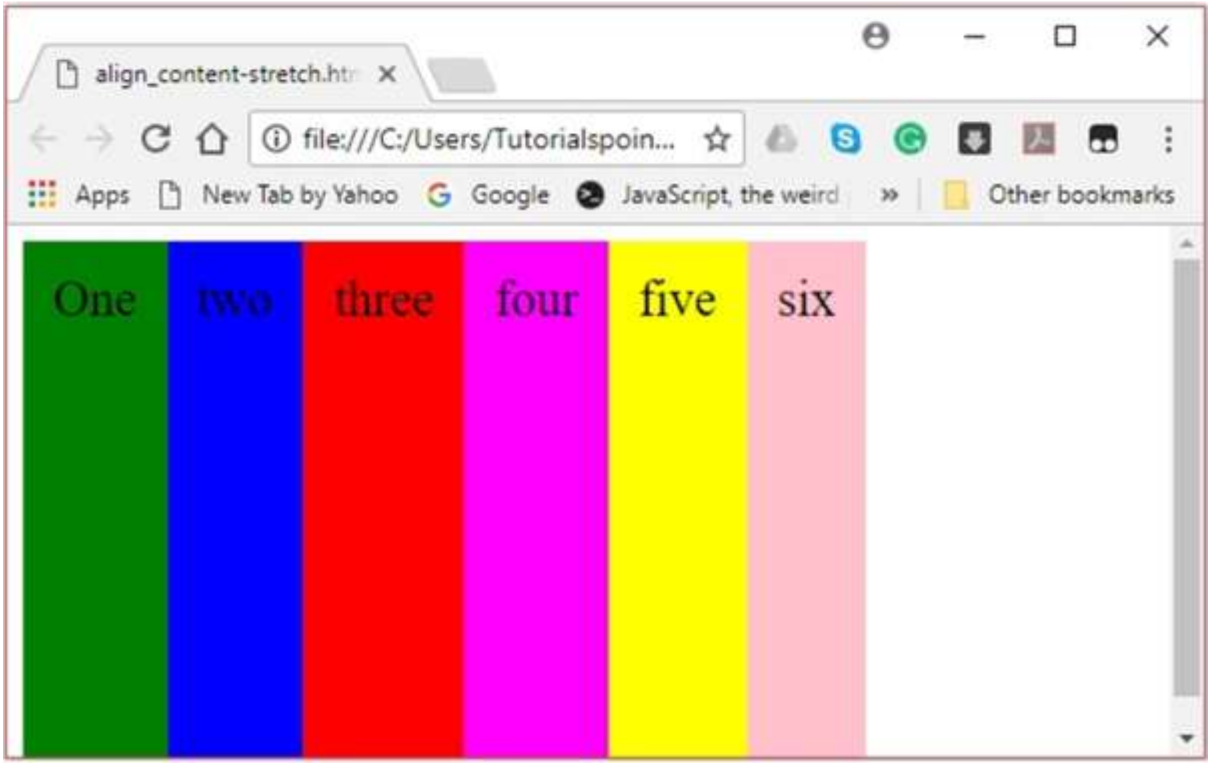
On passing this value to the property **align-content**, the lines will stretch to fill up the remaining space.



The following example demonstrates the result of passing the value **stretch** to the **align-content** property.

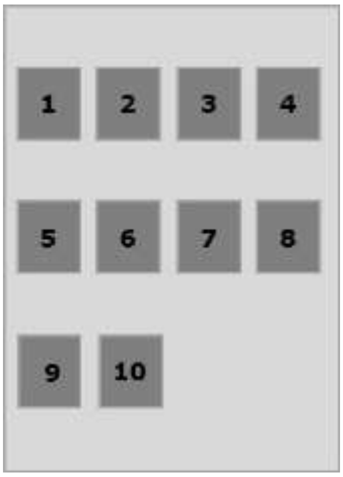
```
<!doctype html>
<html lang="en">
<style>
.box1{background:green;}
.box2{background:blue;}
.box3{background:red;}
.box4{background:magenta;}
.box5{background:yellow;}
.box6{background:pink;}

.box{
  font-size:25px;
  padding:15px;
  width:40;
}

.container{
   display:flex;
   height:100vh;
   flex-wrap:wrap;
   align-content:stretch;
}
</style>

<body>
<div class="container">
<div class="box box1">One</div>
<div class="box box2">two</div>
<div class="box box3">three</div>
<div class="box box4">four</div>
<div class="box box5">five</div>
<div class="box box6">six</div>
</div>
</body>

<html>
```

It will produce the following result –



space-around

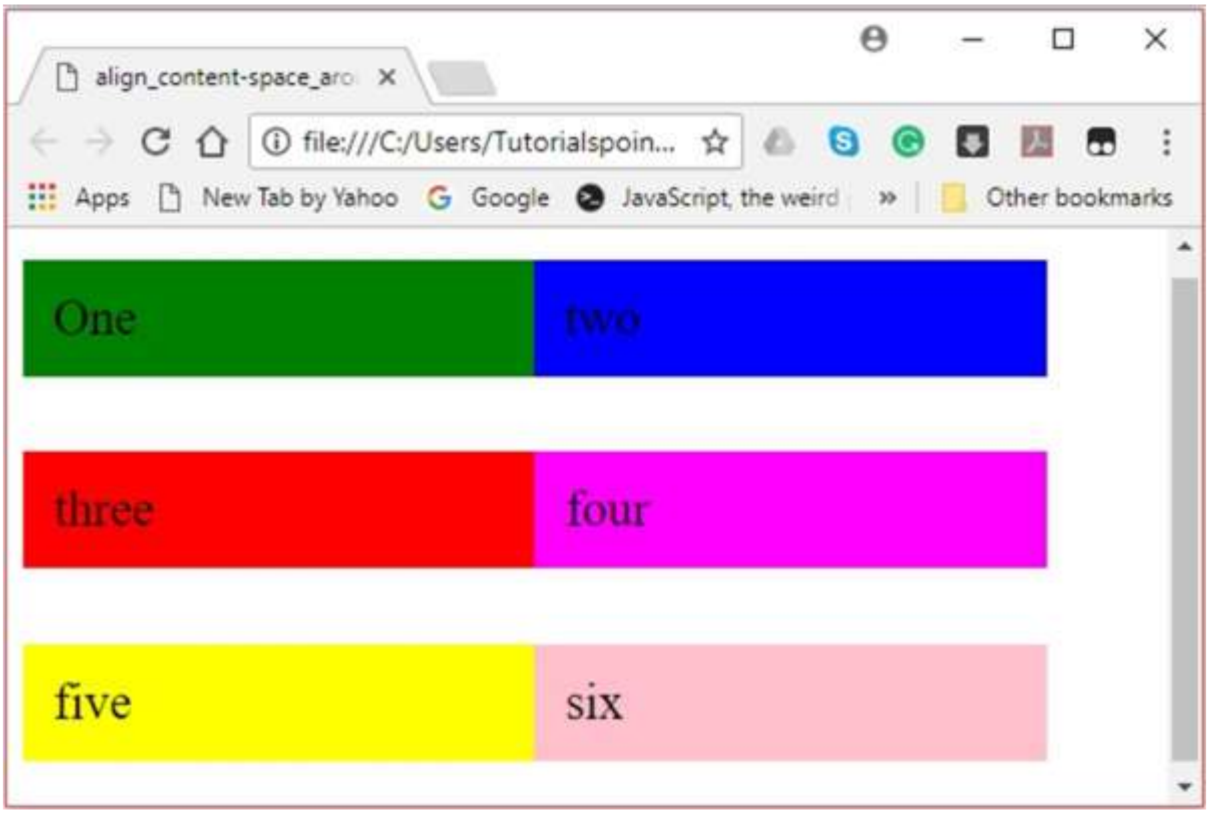
On passing this value to the property **align-content**, the extra space is distributed between the lines evenly with equal space around each line (including the first and last lines).



The following example demonstrates the result of passing the value **space-around** to the **align-content** property.

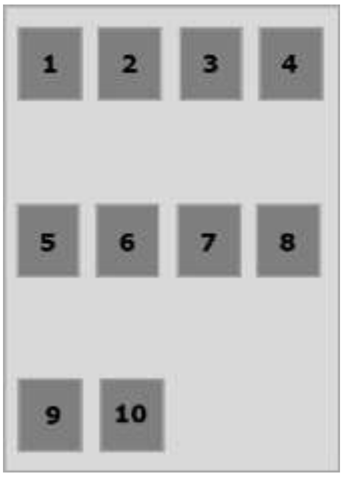
```
<!doctype html>
<html lang="en">
<style>
.box1{background:green;}
.box2{background:blue;}
.box3{background:red;}
.box4{background:magenta;}
.box5{background:yellow;}
.box6{background:pink;}

.box{
  font-size:25px;
  padding:15px;
  width:40%;
}

.container{
   display:flex;
   height:100vh;
   flex-wrap:wrap;
   align-content:space-around;
}
</style>

<body>
<div class="container">
<div class="box box1">One</div>
<div class="box box2">two</div>
<div class="box box3">three</div>
<div class="box box4">four</div>
<div class="box box5">five</div>
<div class="box box6">six</div>
</div>
</body>

<html>
```

It will produce the following result –



space-between

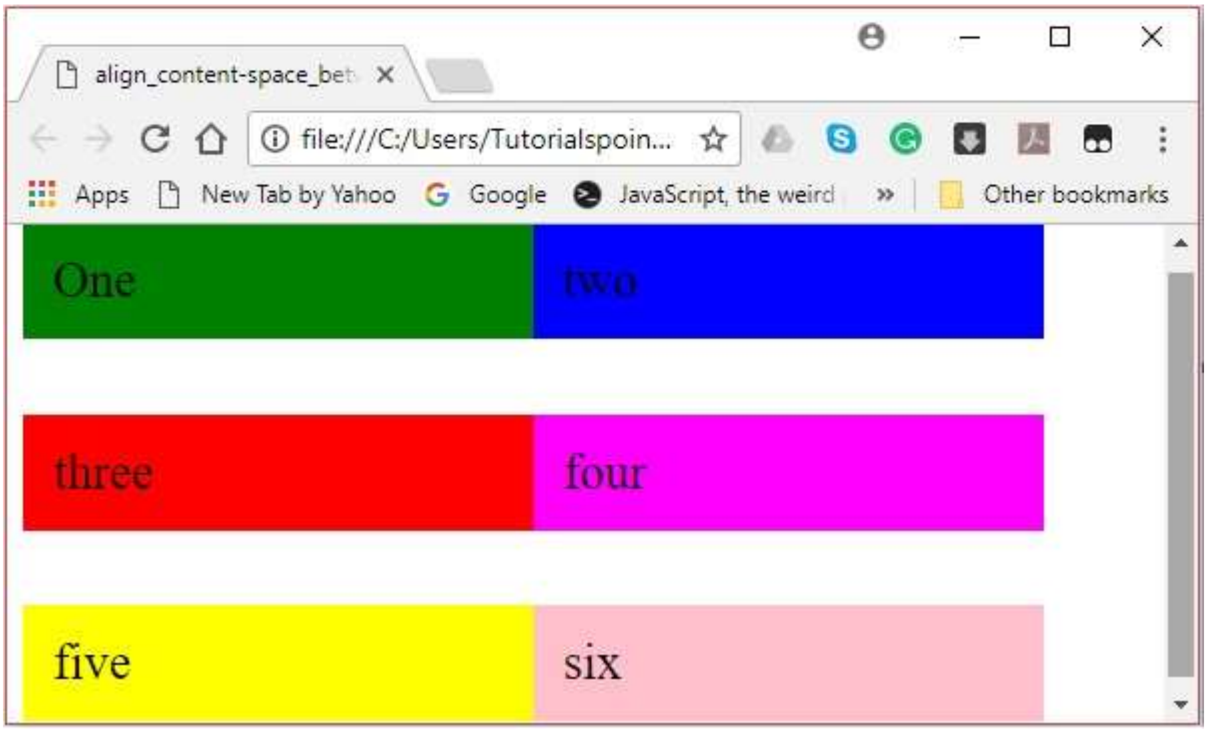
On passing this value to the property **align-content**, the extra space is distributed between the lines evenly, where the first line will be at the top and the last line will be at the bottom of the container.



The following example demonstrates the result of passing the value **space-between** to the **align-content** property.

```
<!doctype html>
<html lang="en">
<style>
.box1{background:green;}
.box2{background:blue;}
.box3{background:red;}
.box4{background:magenta;}
.box5{background:yellow;}
.box6{background:pink;}

.box{
  font-size:25px;
  padding:15px;
  width:40%;
}

.container{
   display:flex;
   height:100vh;
   flex-wrap:wrap;
   align-content:space-between;
}
</style>

<body>
<div class="container">
<div class="box box1">One</div>
<div class="box box2">two</div>
<div class="box box3">three</div>
<div class="box box4">four</div>
<div class="box box5">five</div>
<div class="box box6">six</div>
</div>
</body>

<html>
```

It will produce the following result –



One two

three four

five six

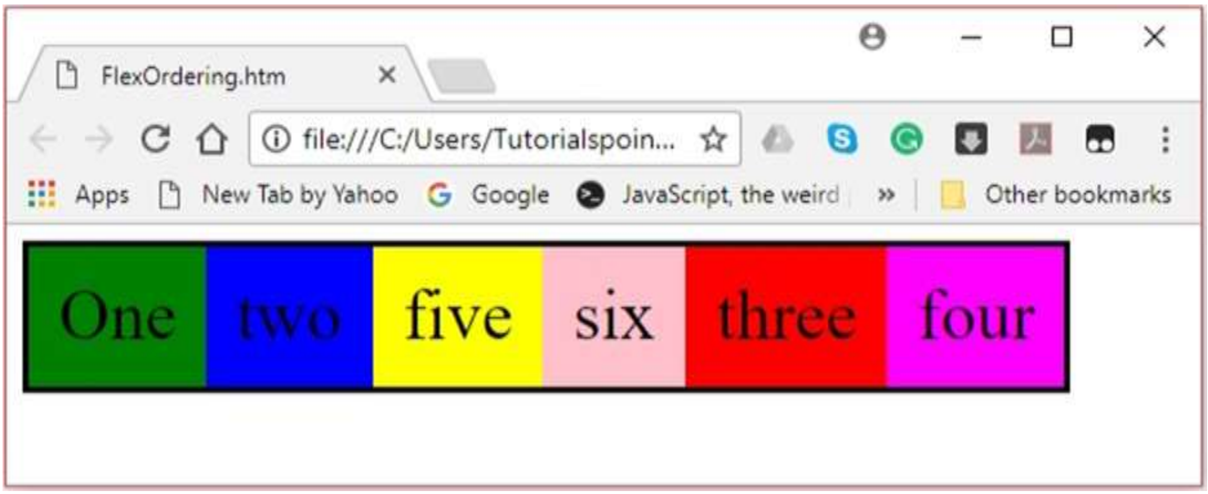
8. Flexbox – Flex-order

The **flex-order** property is used to define the order of the flexbox item.

The following example demonstrates the **order** property. Here we are creating six colored boxes with the labels one, two, three, four, five, six, arranged in the same order, and we are reordering them in the order one, two, five, six, three, four, using the flex-order property.

```
<!doctype html>
<html lang="en">
<style>
.box{
  font-size:35px;
  padding:15px;
}

.box1{background:green;}
.box2{background:blue;}
.box3{background:red; order:1}
.box4{background:magenta; order:2}
.box5{background:yellow;}
.box6{background:pink;}

.container{
   display:inline-flex;
   border:3px solid black;
   flex-direction:rows;
   flex-wrap:wrap;
}
</style>

<body>
<div class="container">
<div class="box box1">One</div>
<div class="box box2">two</div>
<div class="box box3">three</div>
<div class="box box4">four</div>
<div class="box box5">five</div>
<div class="box box6">six</div>
</div>
</body>

<html>
```

It will produce the following result –



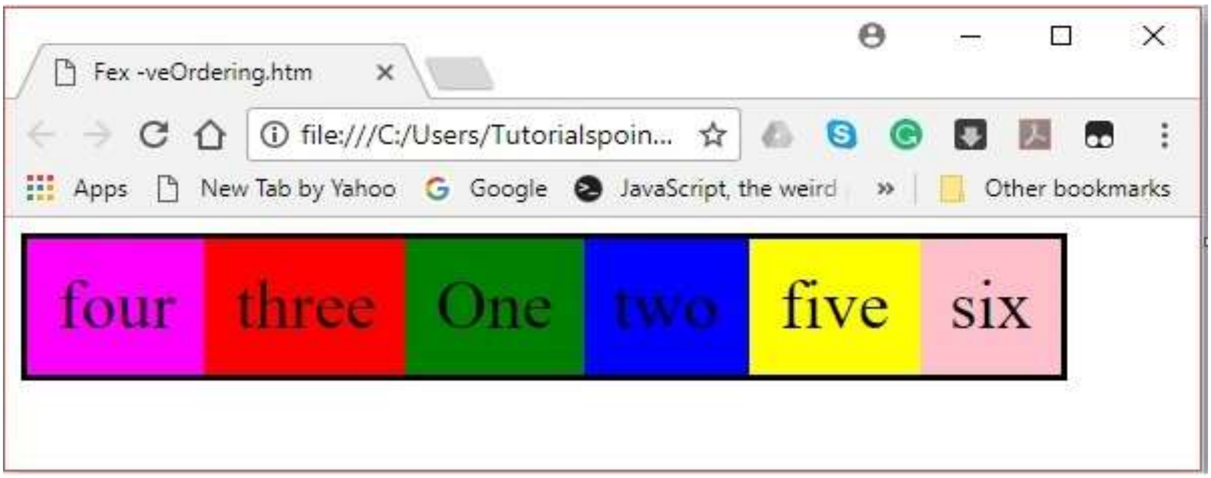
- ve ordering

You can also assign –ve values to the order as shown below.

```
<!doctype html>
<html lang="en">
<style>
.box{
  font-size:35px;
  padding:15px;

}

.box1{background:green;}
.box2{background:blue;}
.box3{background:red; order:-1}
.box4{background:magenta; order:-2}
.box5{background:yellow;}
.box6{background:pink;}

.container{
   display:inline-flex;
   border:3px solid black;
   flex-direction:row;
   flex-wrap:wrap;
}
</style>

<body>
<div class="container">
```

```
<div class="box box1">One</div>
<div class="box box2">two</div>
<div class="box box3">three</div>
<div class="box box4">four</div>
<div class="box box5">five</div>
<div class="box box6">six</div>
</div>
</body>

<html>
```

It will produce the following result –



four three One two five six

9. Flexbox – Flexibility

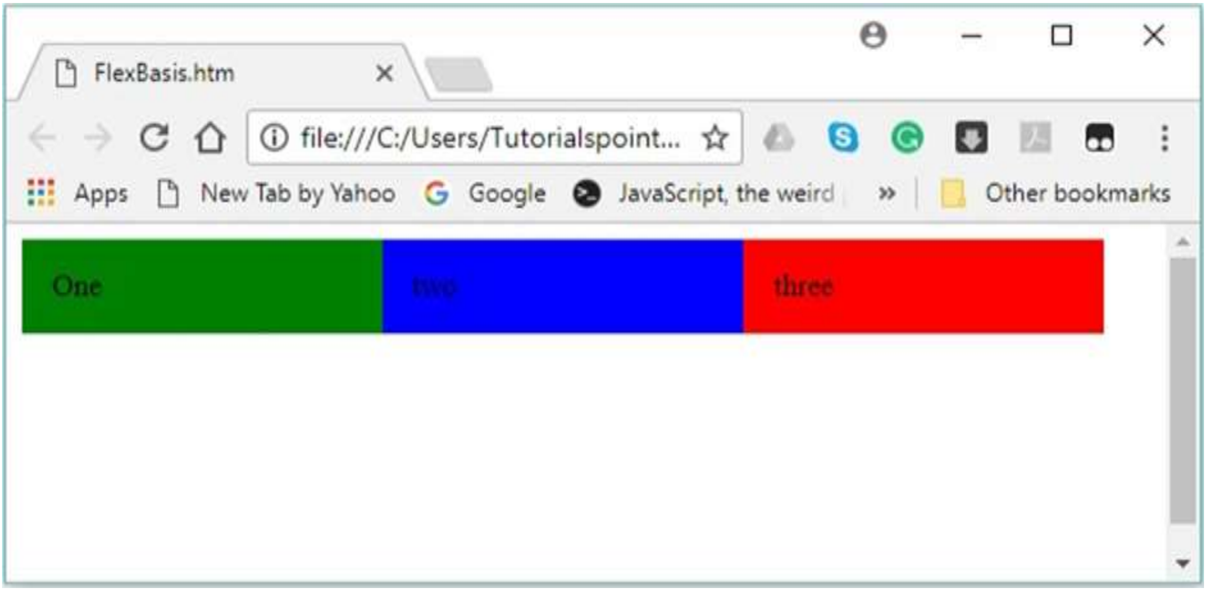
flex-basis

We use the **flex-basis** property to define the default size of the flex-item before the space is distributed.

The following example demonstrates the usage of the flex-basis property. Here we are creating 3 colored boxes and fixing their size to 150 px.

```
<!doctype html>
<html lang="en">
<style>
.box{
  font-size:15px;
  padding:15px;
}

.box1{background:green; flex-basis:150px; }
.box2{background:blue; flex-basis:150px;}
.box3{background:red; flex-basis:150px;}


.container{
   display:flex;
   height:100vh;
   align-items:flex-start;
}
</style>

<body>
<div class="container">
<div class="box box1">One</div>
<div class="box box2">two</div>
<div class="box box3">three</div>

</div>
</body>

<html>
```

It will produce the following result –



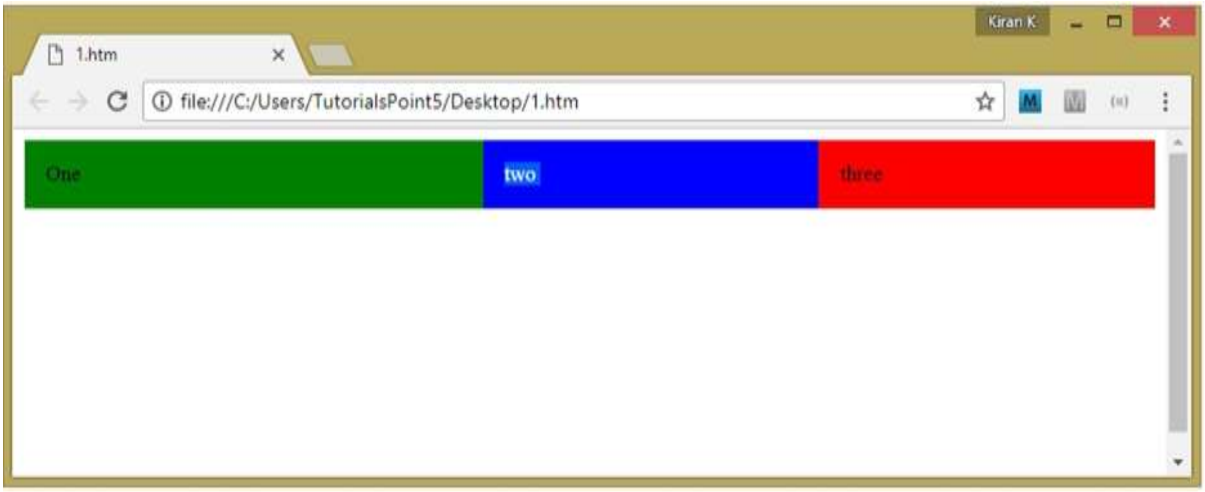
flex-grow

We use the **flex-grow** property to set the **flex-grow** factor. In case of excess space in the container, it specifies how much a particular flex-item should grow.

```
<!doctype html>
<html lang="en">
<style>
.box{
  font-size:15px;
  padding:15px;
}

.box1{background:green; flex-grow:10; flex-basis:200px; }
.box2{background:blue; flex-grow:1; flex-basis:200px; }
.box3{background:red; flex-grow:1; flex-basis:200px; }

.container{
   display:flex;
   height:100vh;
   align-items:flex-start;
}
</style>

<body>
<div class="container">
<div class="box box1">One</div>
```

```
<div class="box box2">two</div>
<div class="box box3">three</div>

</div>
</body>

<html>
```

It will produce the following result –

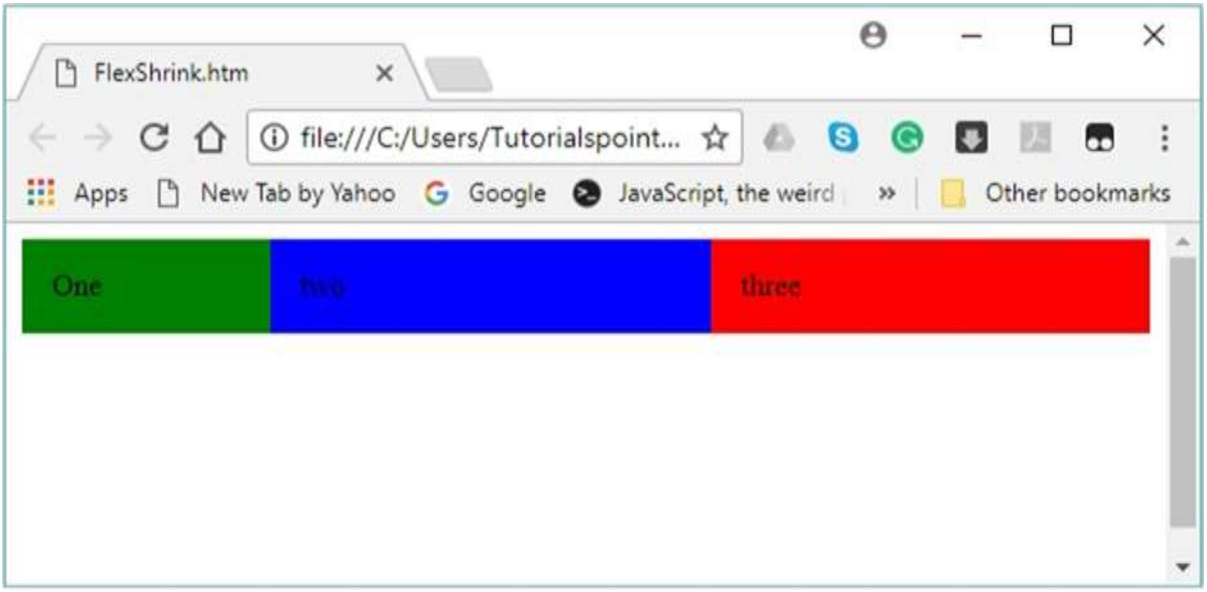


flex-shrink

We use the flex-shrink property is used to set the flex **shrink-factor**. In case there is not enough space in the container, it specifies how much a flex-item should shrink.

```
<!doctype html>
<html lang="en">
<style>
.box{
  font-size:15px;
  padding:15px;
}

.box1{background:green; flex-basis:200px; flex-shrink:10}
.box2{background:blue; flex-basis:200px; flex-shrink:1}
.box3{background:red; flex-basis:200px; flex-shrink:1}



.container{
   display:flex;
   height:100vh;
   align-items:flex-start;
}
</style>

<body>
<div class="container">
<div class="box box1">One</div>
<div class="box box2">two</div>
<div class="box box3">three</div>

</div>
</body>

<html>
```

It will produce the following result –



flex

There is a shorthand to set values to all these three properties at once; it is called **flex**. Using this property, you can set values to flex-grow, flex-shrink, and flex-basis values at once. Here is the syntax of this property.

```
.item {
  flex: none | [ <'flex-grow'> <'flex-shrink'>? || <'flex-basis'> ]
}
```

10. Flexbox – Align Self

This property is similar to **align-items**, but here, it is applied to individual flex items.

Usage:

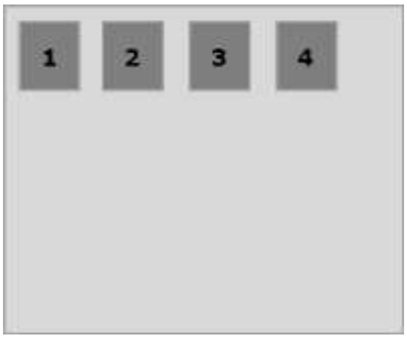
```
align-self: auto | flex-start | flex-end | center | baseline | stretch;
```

This property accepts the following values –

- **flex-start:** The flex item will be aligned vertically at the top of the container.
- **flex-end:** The flex item will be aligned vertically at the bottom of the container.
- **flex-center:** The flex item will be aligned vertically at the center of the container.
- **Stretch:** The flex item will be aligned vertically such that it fills up the whole vertical space of the container.
- **baseline:** The flex item will be aligned at the base line of the cross axis.

flex-start

On passing this value to the property align-self, a particular flex-item will be aligned vertically at the top of the container.

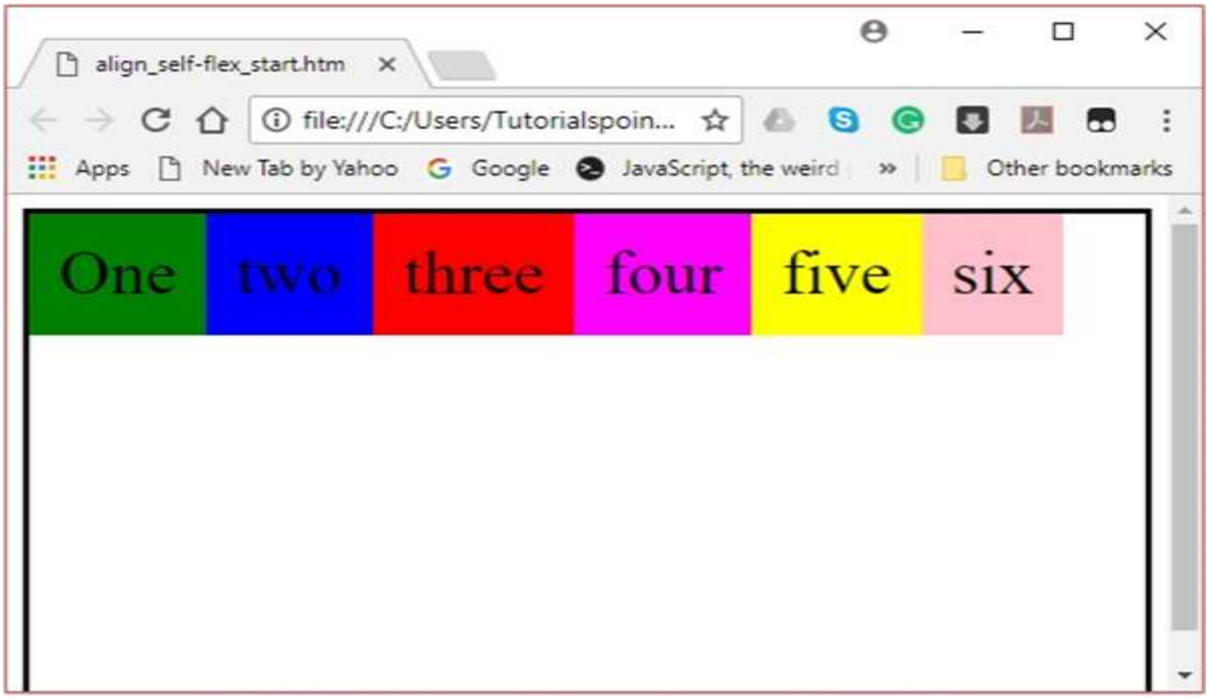


The following example demonstrates the result of passing the value **flex-start** to the **align-self** property.

```
<!doctype html>
<html lang="en">
<style>
.box1{background:green;}
.box2{background:blue;}
.box3{background:red;}
.box4{background:magenta; align-self:start;}
.box5{background:yellow;}
.box6{background:pink;}
```

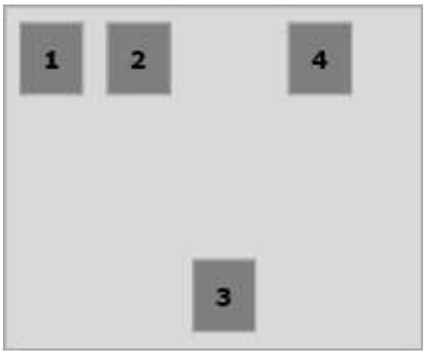
```
.box{
  font-size:35px;
  padding:15px;
}

.container{
   display:flex;
   height:100vh;
   border:3px solid black;
   align-items:flex-start;
}
</style>

<body>
<div class="container">
<div class="box box1">One</div>
<div class="box box2">two</div>
<div class="box box3">three</div>
<div class="box box4">four</div>
<div class="box box5">five</div>
<div class="box box6">six</div>
</div>
</body>
<html>
```

It will produce the following result –



flex-end

On passing this value to the property **align-self**, a particular flex-item will be aligned vertically at the bottom of the container.

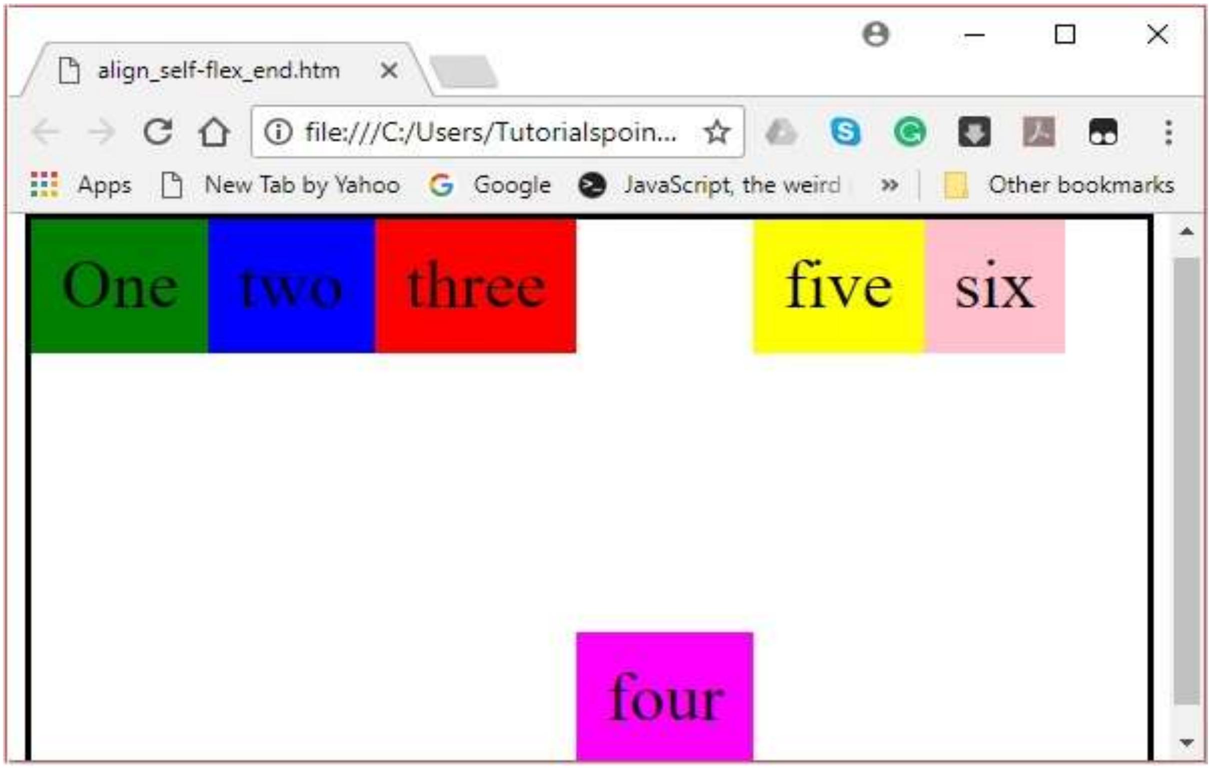


The following example demonstrates the result of passing the value **flex-end** to the **align-self** property.

```
<!doctype html>
<html lang="en">
<style>
.box1{background:green;}
.box2{background:blue;}
.box3{background:red;}
.box4{background:magenta; align-self:flex-end;}
.box5{background:yellow;}
.box6{background:pink;}

.box{
  font-size:35px;
  padding:15px;
}

.container{
   display:flex;
   height:100vh;
   border:3px solid black;
   align-items:flex-start;
}
</style>

<body>
<div class="container">
<div class="box box1">One</div>
<div class="box box2">two</div>
<div class="box box3">three</div>
```

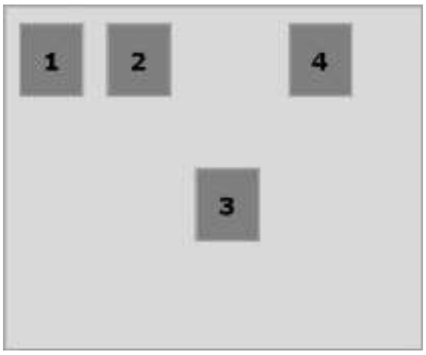
```
<div class="box box4">four</div>
<div class="box box5">five</div>
<div class="box box6">six</div>
</div>
</body>
<html>
```

It will produce the following result –



center

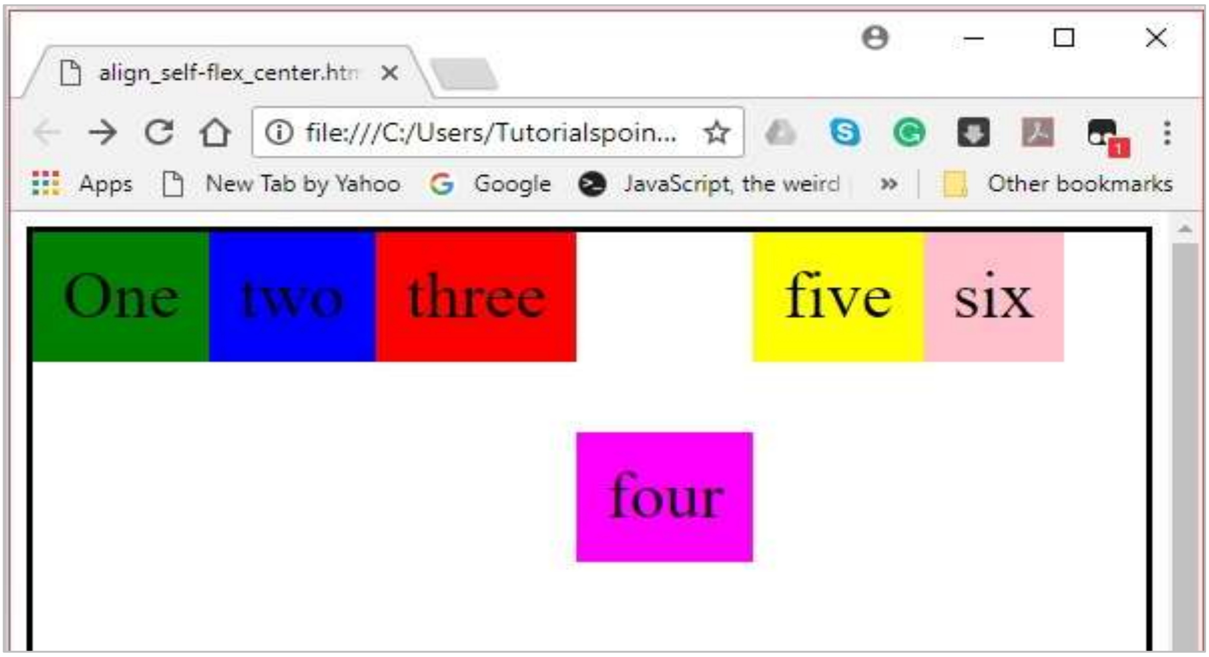
On passing the value **center** to the property **align-self**, a particular flex-item will be aligned vertically at the center of the container.



The following example demonstrates the result of passing the value **center** to the **align-self** property.

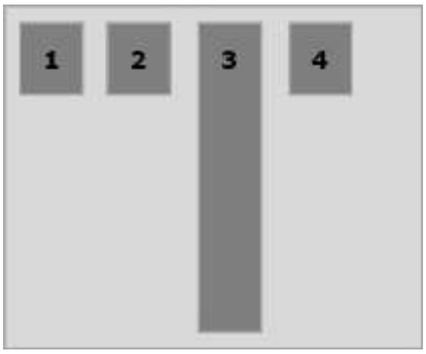
```
<!doctype html>
<html lang="en">
<style>
.box1{background:green;}
.box2{background:blue;}
.box3{background:red;}
.box4{background:magenta; align-self:center;}
.box5{background:yellow;}
.box6{background:pink;}

.box{
  font-size:35px;
  padding:15px;
}

.container{
   display:flex;
   height:100vh;
   border:3px solid black;
   align-items:flex-start;
}
</style>

<body>
<div class="container">
<div class="box box1">One</div>
<div class="box box2">two</div>
<div class="box box3">three</div>
<div class="box box4">four</div>
<div class="box box5">five</div>
<div class="box box6">six</div>
</div>
</body>
<html>
```

It will produce the following result –



stretch

On passing this value to the property **align-self**, a particular flex item it will be aligned vertically such that it fills up the whole vertical space of the container.

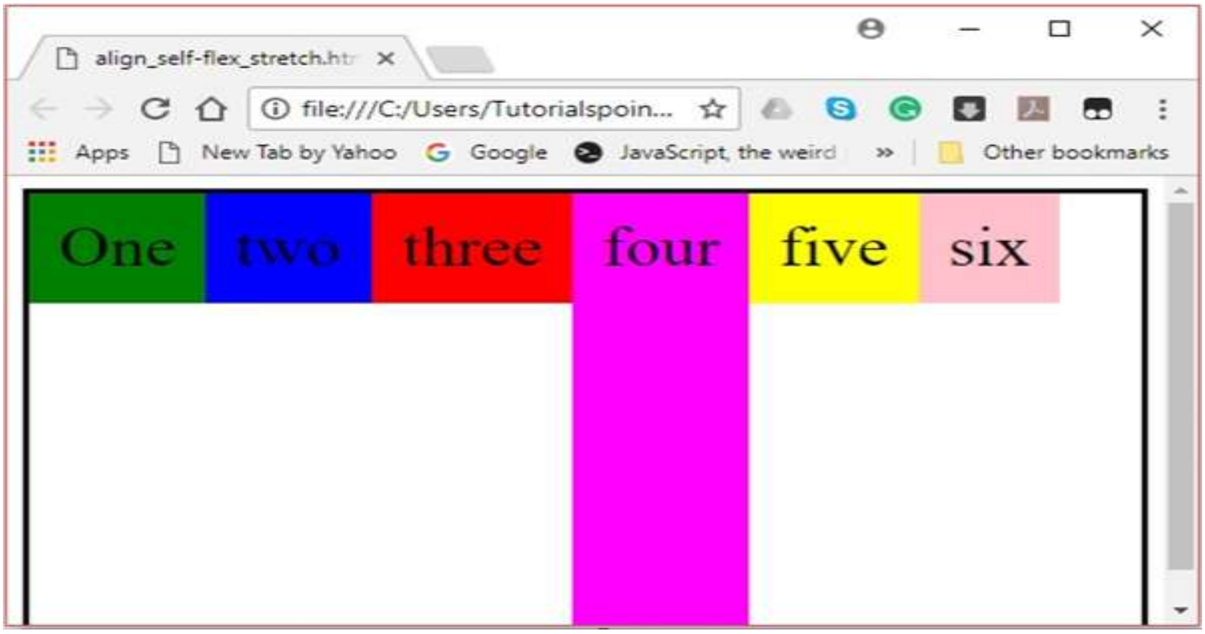


The following example demonstrates the result of passing the value **stretch** to the **align-self** property.

```
<!doctype html>
<html lang="en">
<style>
.box1{background:green;}
.box2{background:blue;}
.box3{background:red;}
.box4{background:magenta; align-self:stretch;}
.box5{background:yellow;}
.box6{background:pink;}
```

```
.box{
  font-size:35px;
  padding:15px;
}

.container{
   display:flex;
   height:100vh;
   border:3px solid black;
   align-items:flex-start;
}
</style>

<body>
<div class="container">
<div class="box box1">One</div>
<div class="box box2">two</div>
<div class="box box3">three</div>
<div class="box box4">four</div>
<div class="box box5">five</div>
<div class="box box6">six</div>
</div>
</body>
<html>
```

It will produce the following result –


align_self-flex_stretch.htr
file:///C:/Users/Tutorialspoin...
Apps
New Tab by Yahoo
Google
JavaScript, the weird
Other bookmarks
One
two
three
four
five
six