

Grid Layout

Cascading Style Sheets (CSS3)



Table of Content

- Grid Layout



Grid Layout

(Cascading Style Sheets 3)

Grid Layout

- The CSS Grid Layout Module offers a grid-based layout system with
 - rows
 - Columns
- Grid layout is used to design web pages without having to use floats and positioning

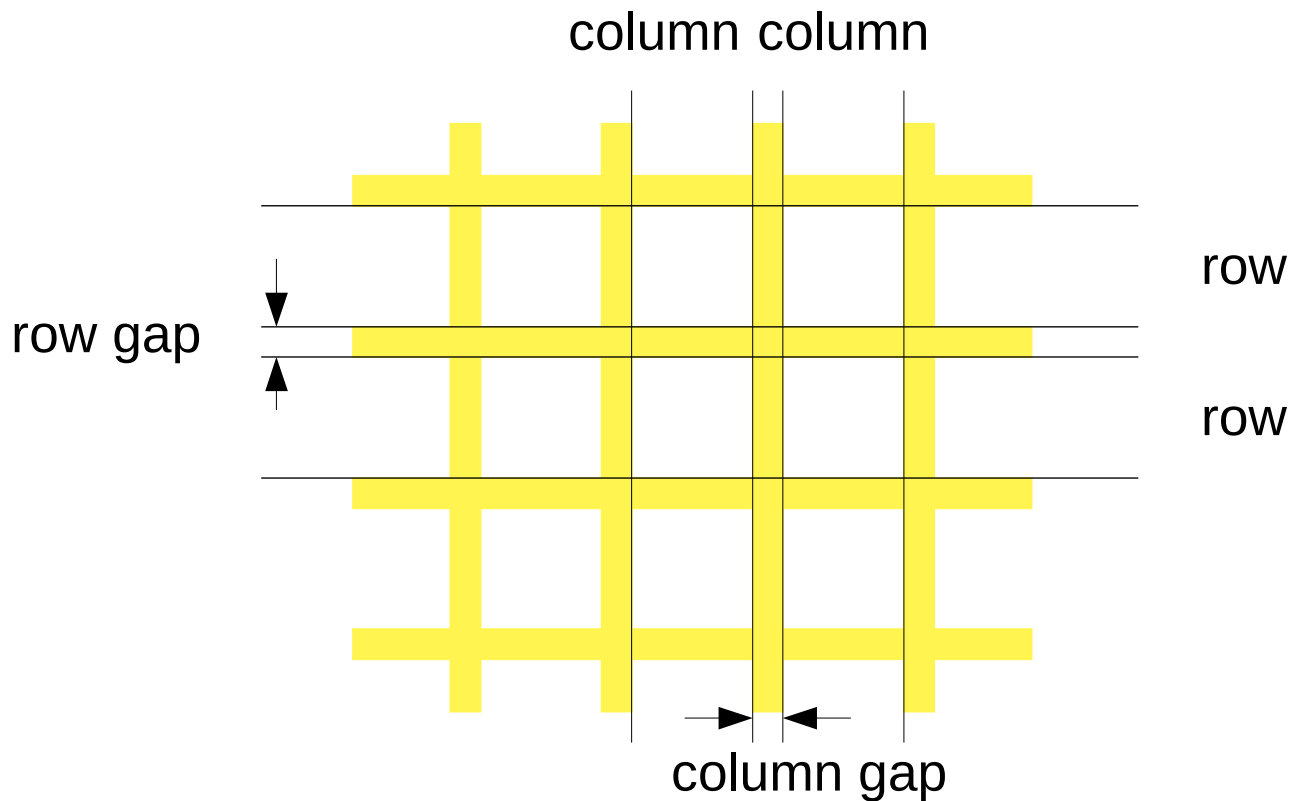
Grid Layout

- A grid layout consists of a parent element (**container**), with one or more child elements (**grid item**)
- An HTML element becomes a grid container by setting the **display property** to **grid**, **inline-grid** or **subgrid**
- column, float, clear, and vertical-align have no effect on a grid container

Syntax:

```
display : grid | inline-grid | subgrid;
```

Grid Layout



Grid Layout

- The gap size can be adjusted using one of these properties
 - `grid-column-gap`
 - `grid-row-gap`
 - `grid-gap`

Grid container

- Following properties shall be set for grid container

Example:

```
.grid-container {  
  display: grid;  
  grid-gap: 50px 50px; /* row-gap column-gap */  
  /* 4 columns with equal size */  
  grid-template-columns: auto auto auto auto;  
}
```


Property grid-template-column

- The grid-template-columns property defines the number of columns in grid layout, and it can define the width of each column
- The value is a space-separated-list, where each value defines the length of the respective column
- Width can be specified in pixels
- “auto” means all columns have the same width

Property grid-template-rows

- The grid-template-rows property defines the height of each row
- The value is a space-separated-list, where each value defines the height of the respective row
- Height can be specified in pixels
- “auto” means all rows have the same height
- Rows are automatically added to accommodate grid items

Grid item

- Following properties shall be set for grid item

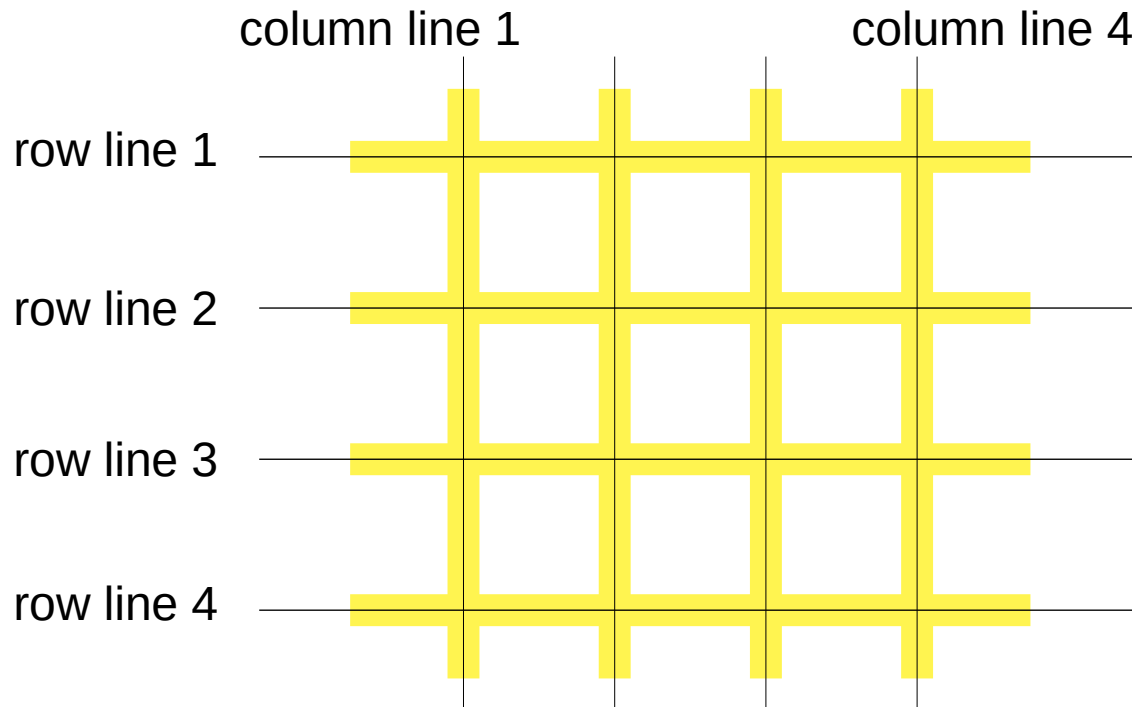
Example:

```
.grid-item {  
background-color: rgba(242, 242, 242, 0.8);  
border: 1px solid rgba(0, 0, 0, 0.8);  
}
```

The Grid

```
<div class="grid-container">
  <div class="grid-item">Grid item 1</div>
  <div class="grid-item">Grid item 2</div>
  <div class="grid-item">Grid item 3</div>
  <div class="grid-item">Grid item 4</div>
  <div class="grid-item">Grid item 5</div>
  <div class="grid-item">Grid item 6</div>
  <div class="grid-item">Grid item 7</div>
  <div class="grid-item">Grid item 8</div>
  <div class="grid-item">Grid item 9</div>
</div>
```

Grid lines



Spanning rows and columns

```
.spanning-column-item {  
  grid-column-start: 1;  
  grid-column-end: 3;  
}
```

```
.spanning-row-item {  
  grid-row-start: 2;  
  grid-row-end: 4;  
}
```

Spanning rows and columns

```
/* starting from column line 2 and ending at column line 4 */  
.spanning-column-item {  
  grid-column: 1 / 3;  
}  
  
/* starting from row line 2 and ending at row line 4 */  
.spanning-row-item {  
  grid-row: 2 / 4;  
}
```

Spanning rows and columns

```
/* starting from column line 1 and spanning over 2 columns */  
.spanning-column-item {  
  grid-column: 1 / span 2;  
}  
  
/* starting from row line 2 and spanning over 2 rows */  
.spanning-row-item {  
  grid-row: 2 / span 2;  
}
```


Grid area property

- The grid-area property can be used as a shorthand property for the
 - (grid-row-start, grid-column-start)
 - (grid-row-end, grid-column-end)

Grid area property

```
/* starting from column line 1 and spanning over 2 columns */  
.grid-area-item {  
  grid-area: 1 / 2 / 5 / 6;  
}  
  
/* starting from row line 2 and spanning over 2 rows */  
.grid-area-item {  
  grid-area: 1 / 2 / span 4 / span 6;  
}
```

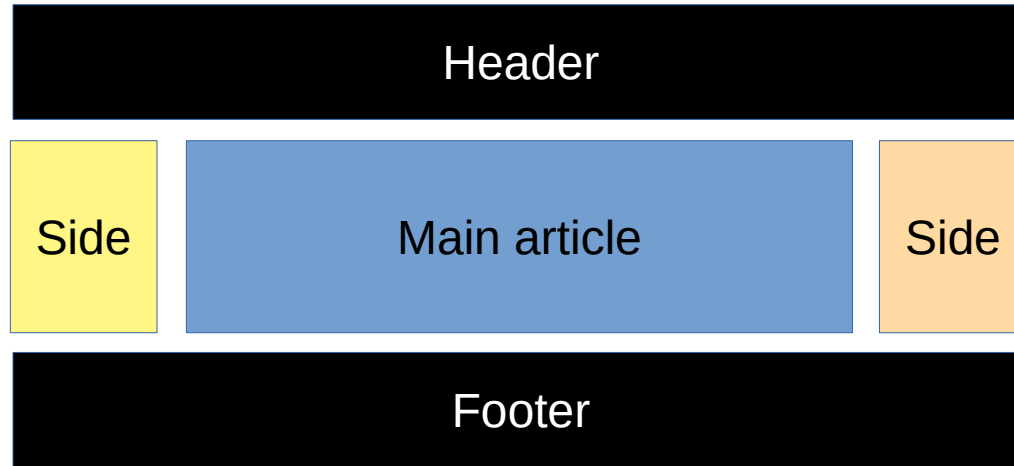
Grid area property

- The **grid-area** property can also be used to assign names to grid items
- Named grid items can be referred to by the **grid-template-areas** property of the grid container

```
.grid-item {  
  grid-area: itemname;  
}  
.grid-container {  
  grid-template-areas: 'itemname itemname itemname itemname';  
}
```

Class work

- Design following layout using grid properties
- Use media queries to alter the layout for mobile and desktop



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*Thank
you*