

Responsive Design

Sites that Adapt to Different Devices



SoftUni Team
Technical Trainers
Software University
<http://softuni.bg>

*Responsive
Web Sites*

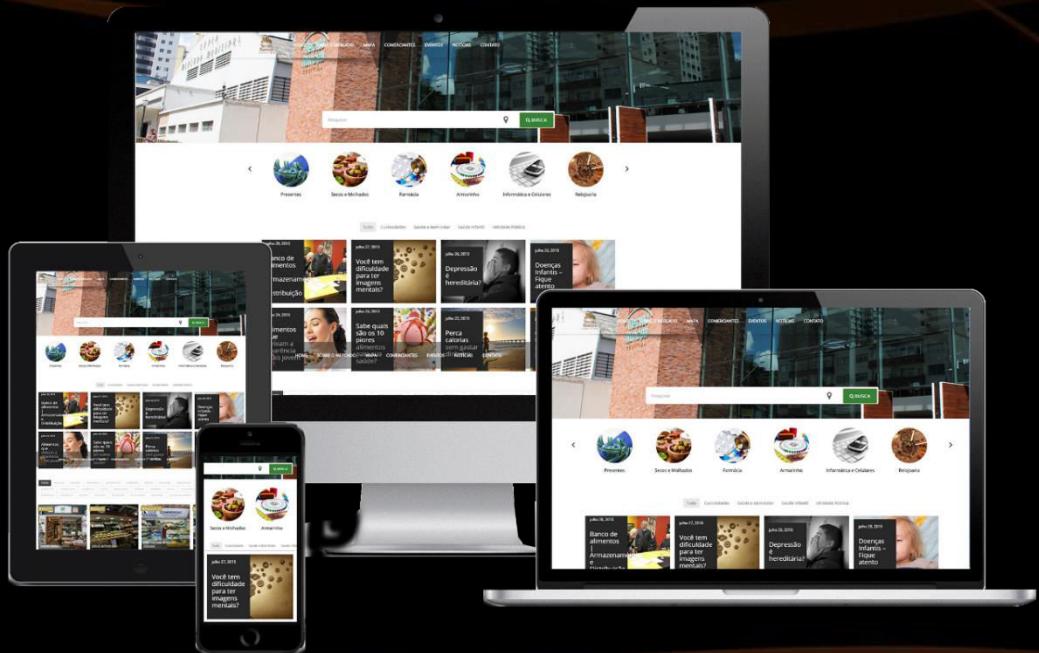
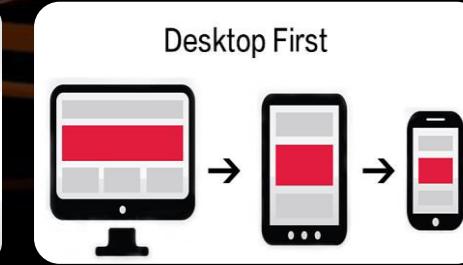
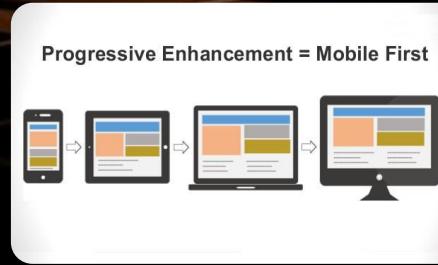


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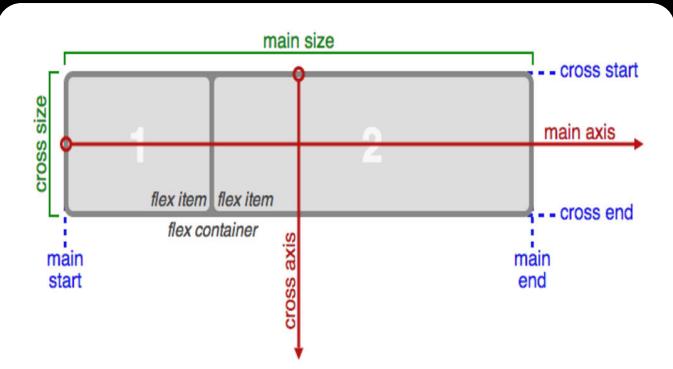


```
.box { width: 250px; height: 250px; display: inline-block; }

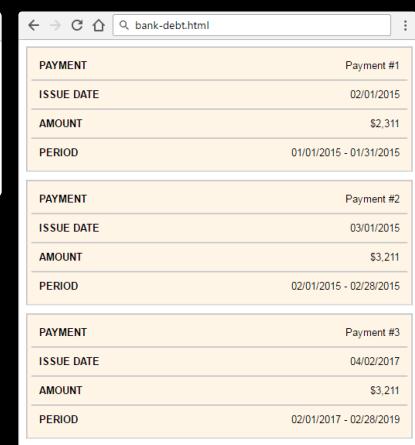
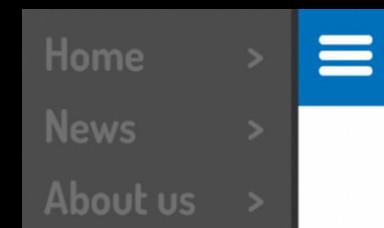
@media screen and (max-width: 1024px) {
  .box { width: 300px; height: 300px; }
}

@media screen and (max-width: 960px) {
  .box { width: 300px; height: 300px; }
}

@media screen and (max-width: 480px) {
  .box { display: block; width: 95%; height: 95% }
}
```



PAYMENT	ISSUE DATE	AMOUNT	PERIOD
Payment #1	02/01/2015	\$2,311	01/01/2015 - 01/31/2015
Payment #2	03/01/2015	\$3,211	02/01/2015 - 02/28/2015
Payment #3	04/02/2017	\$3,211	02/01/2017 - 02/28/2019



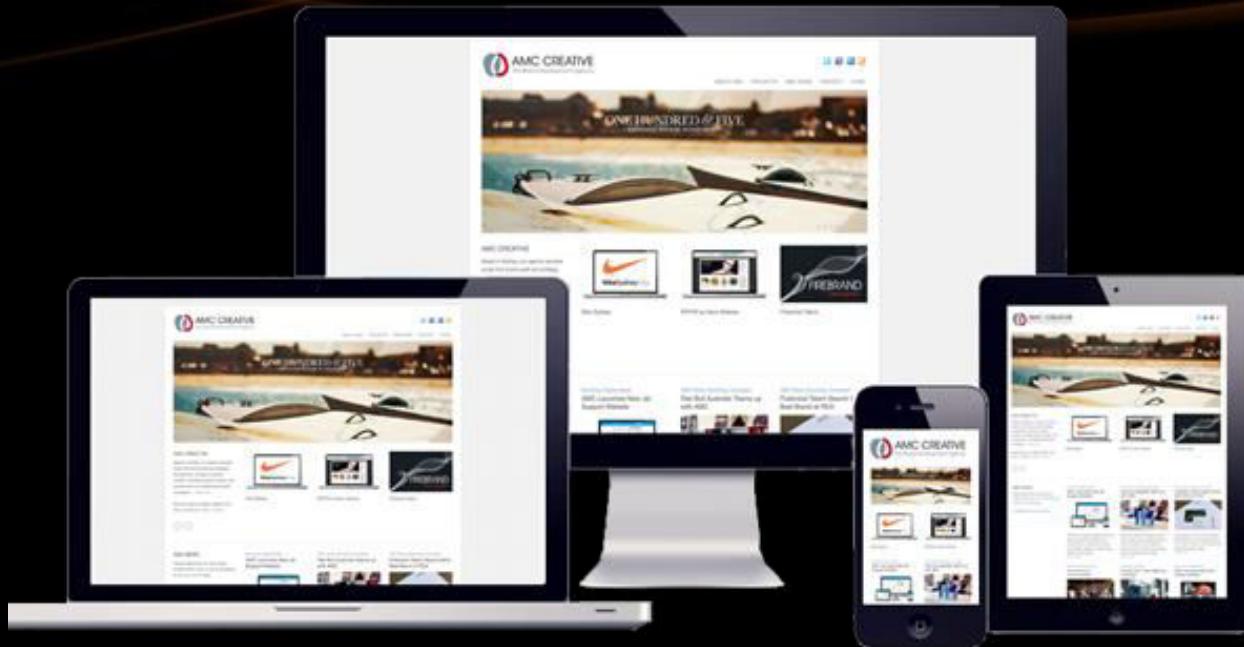
PAYMENT	Payment #1
ISSUE DATE	02/01/2015
AMOUNT	\$2,311
PERIOD	01/01/2015 - 01/31/2015
PAYMENT	Payment #2
ISSUE DATE	03/01/2015
AMOUNT	\$3,211
PERIOD	02/01/2015 - 02/28/2015
PAYMENT	Payment #3
ISSUE DATE	04/02/2017
AMOUNT	\$3,211
PERIOD	02/01/2017 - 02/28/2019

Have a Question?



sli.do

#front-end

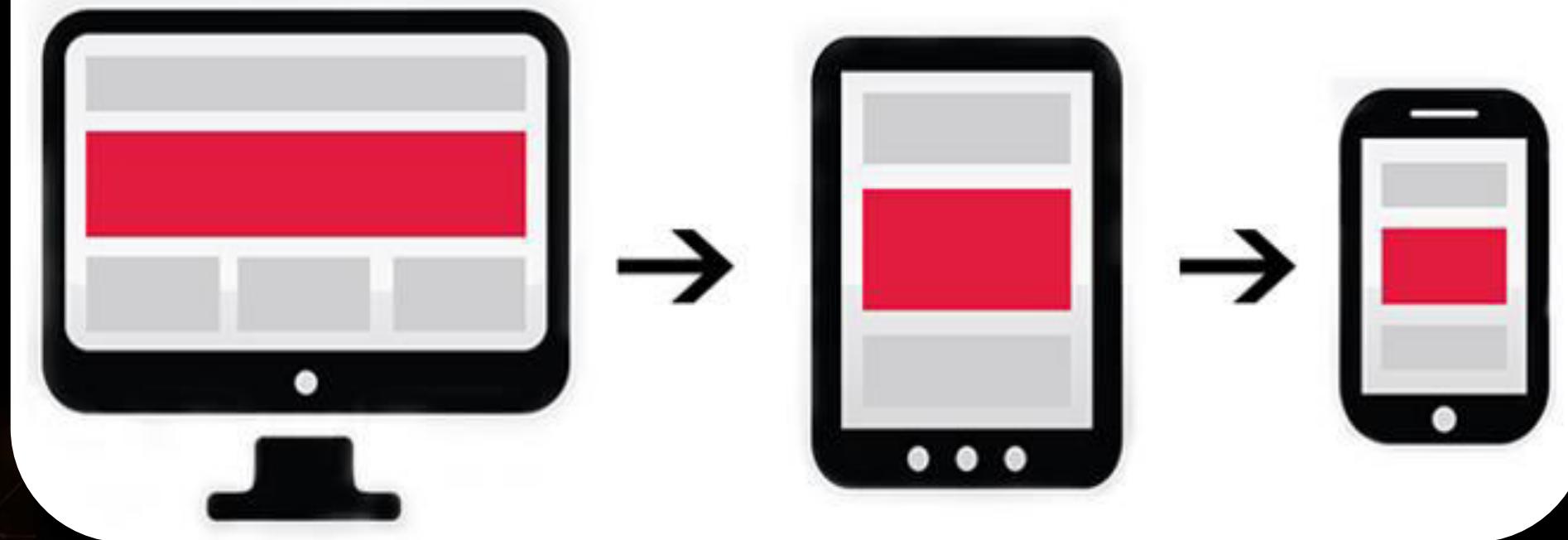


Responsive Design Overview

Progressive Enhancement = Mobile First



Desktop First



```
.box {width: 250px; height: 250px; display: inline-block;}\n\n@media screen and (max-width: 1024px) {\n    .box { width: 300px; height: 300px; }\n}\n\n@media screen and (max-width: 960px) {\n    .box { width: 310px; height: 310px; }\n}\n\n@media screen and (max-width: 480px) {\n    .box { display: block; width: 95%; height: 95%; }\n}
```

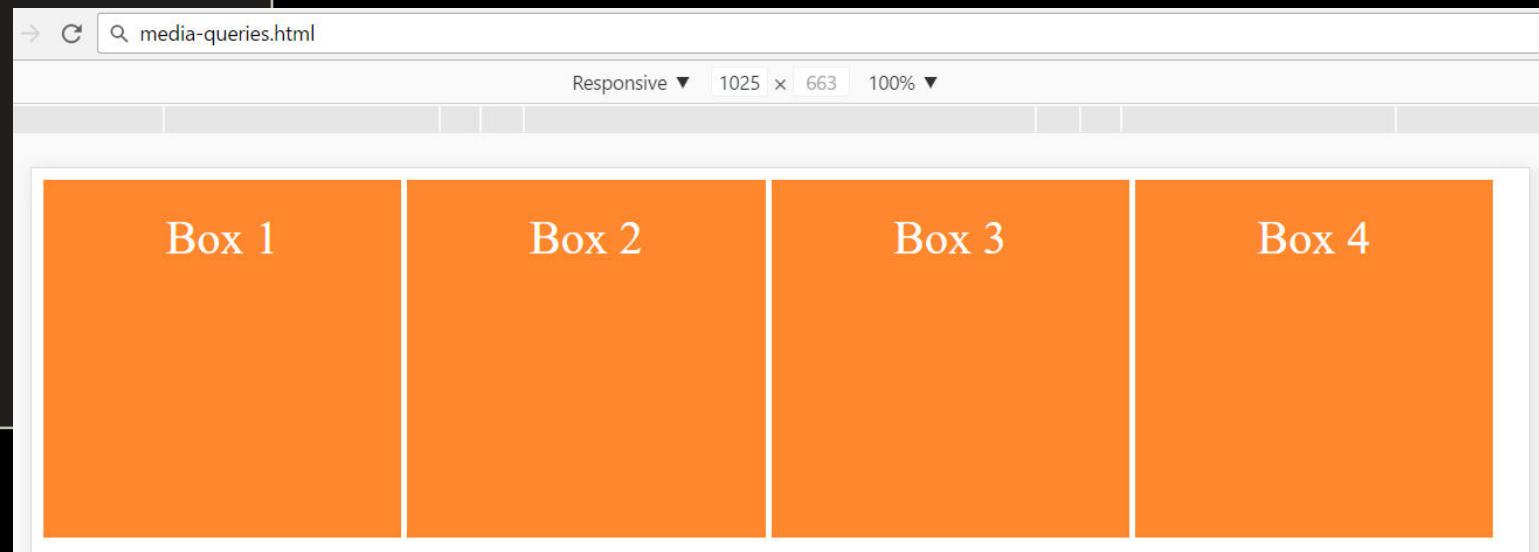
Media Queries

Creating Responsive design with CSS

Media Queries

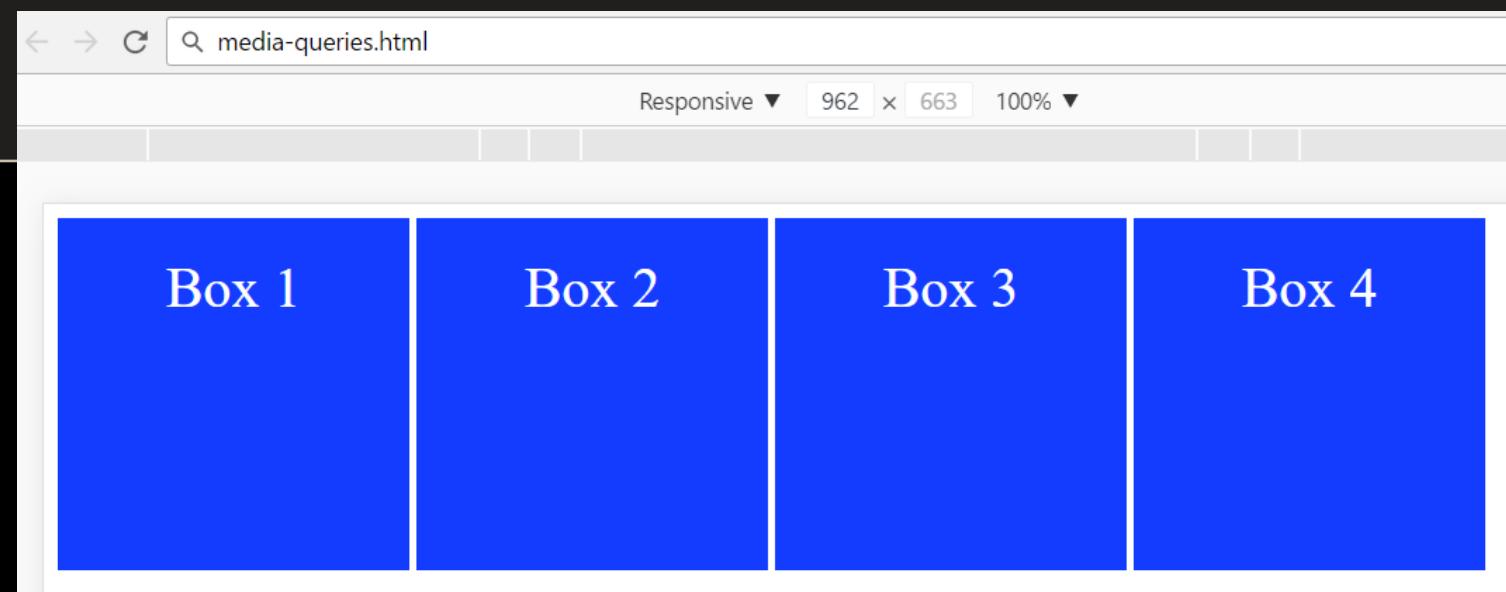
```
.box {  
    display: inline-block;  
    background: #ff882e;  
    text-align: center;  
    line-height: 2.5em;  
    color: #ffffff;  
    font-size: 2em;  
    width: 245px;  
    height: 245px;  
}
```

```
<div class="box">Box 1</div>  
<div class="box">Box 2</div>  
<div class="box">Box 3</div>  
<div class="box">Box 4</div>
```



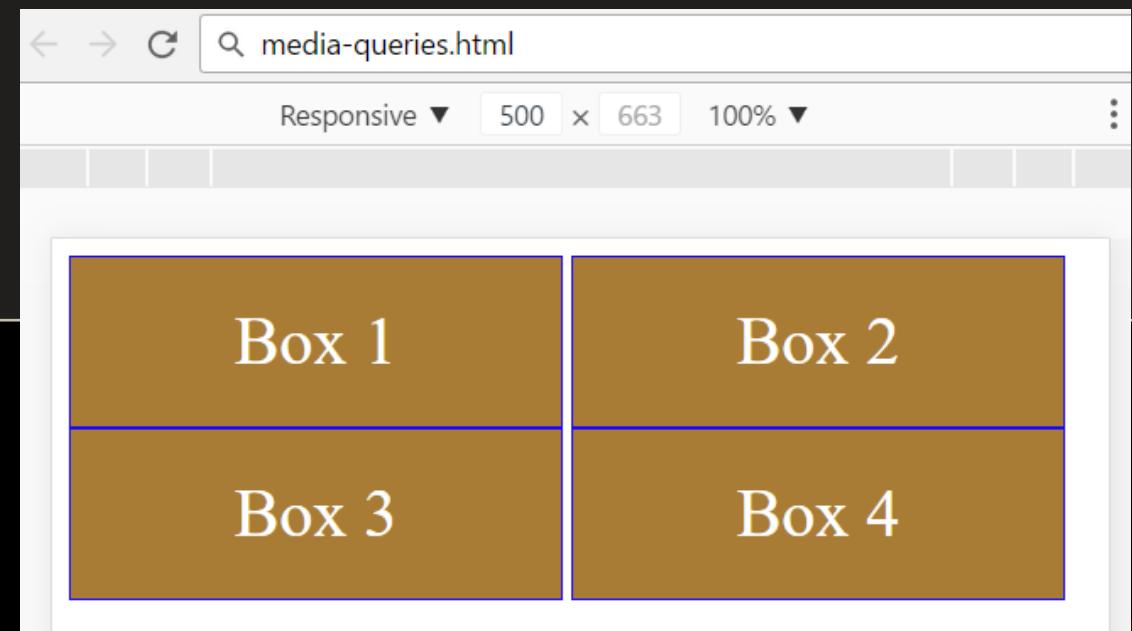
Media Queries: Width < 1024px

```
@media screen and (max-width: 1024px) {  
    .box {  
        width: 200px;  
        height: 200px;  
        background: #143cff;  
    }  
}
```



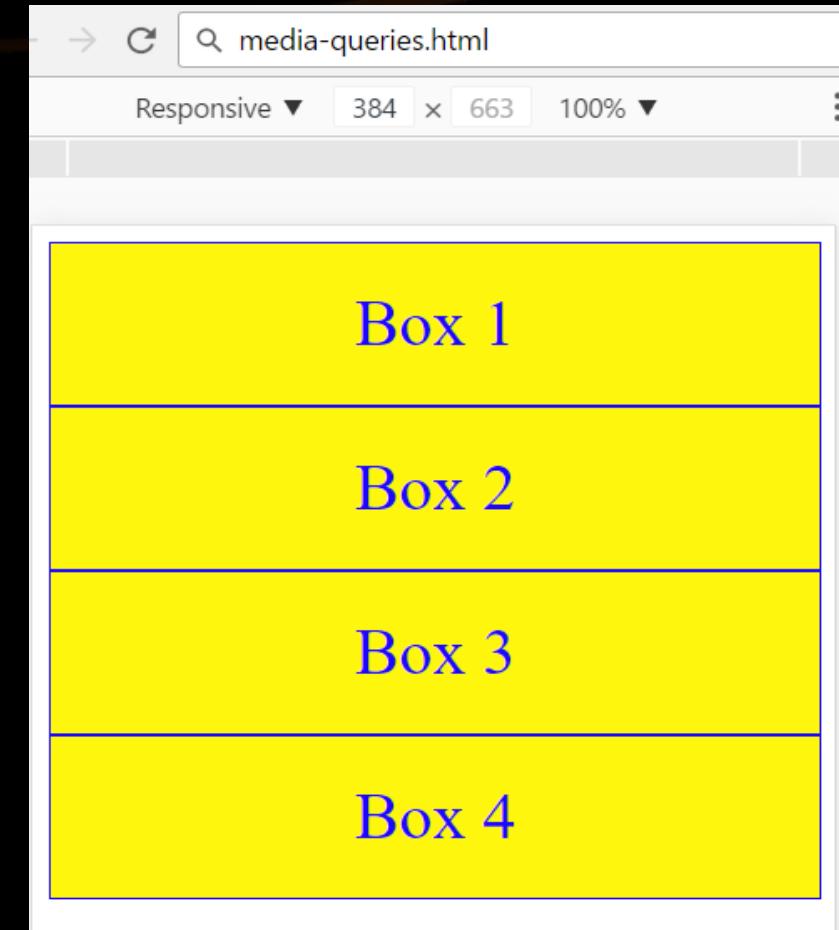
Media Queries: Width < 960px

```
@media screen and (max-width: 960px) {  
    .box {  
        width: calc(50% - 10px);  
        border: 1px solid #1907ff;  
        background: #a97c36;  
        height: 80px;  
    }  
}
```



Media Queries: Width < 480px

```
@media screen and (max-width: 480px) {  
    .box {  
        display: block;  
        width: 100%;  
        background: #fff60e;  
        color: #1907ff;  
    }  
}
```



Typical Resolutions to Consider

- Width $\geq 1024\text{px}$
 - Desktops / laptops
- $640\text{px} \leq \text{width} < 1023\text{px}$
 - Tablets
- Width $< 640\text{px}$
 - Smartphone



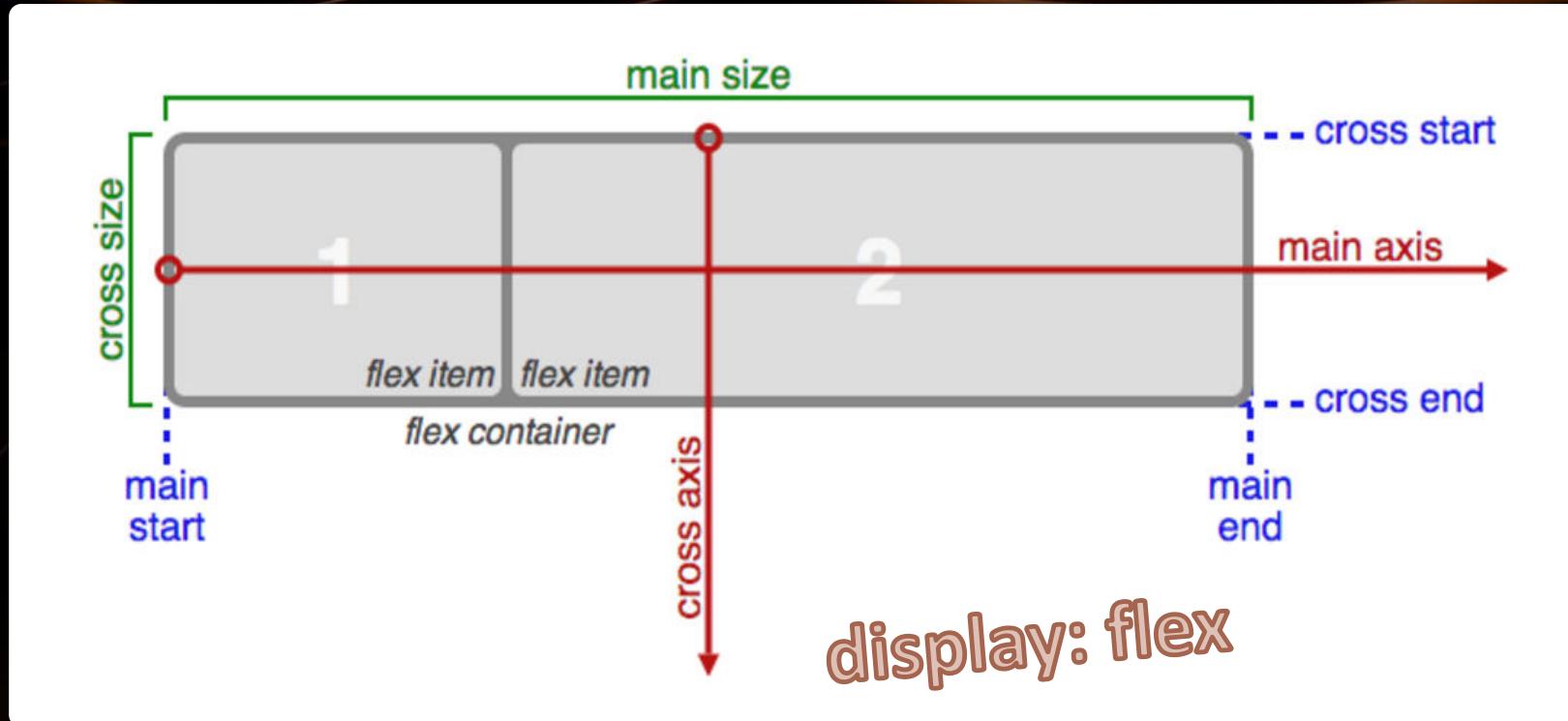
```
/* Normal CSS for  
desktops / laptops */  
{ ... }
```



```
@media screen and  
(max-width: 1024px)  
{ ... }
```



```
@media screen and  
(max-width: 640px)  
{ ... }
```



Flexbox

Flexible Layout in CSS

Flex Container Properties: Flex

```
<div class="flex-container">  
  <div class="flex-item">Flex Item 1</div>  
  <div class="flex-item">Flex Item 2</div>  
  <div class="flex-item">Flex Item 3</div>  
</div>
```

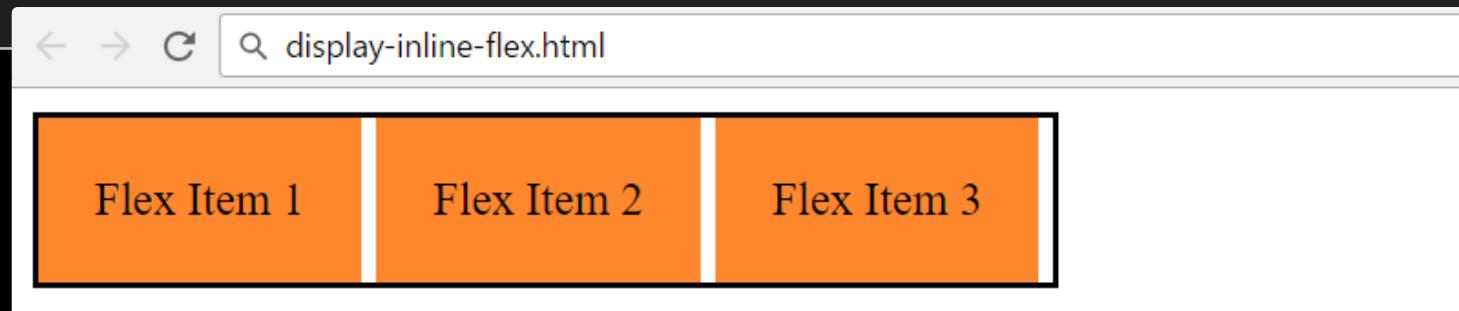


```
.flex-container {  
  display: flex;  
  border: 2px solid black;  
}
```

```
.flex-item {  
  margin-right: 5px;  
  padding: 20px;  
  background: #ff882e; }
```

Flex Container Properties: Inline Flex

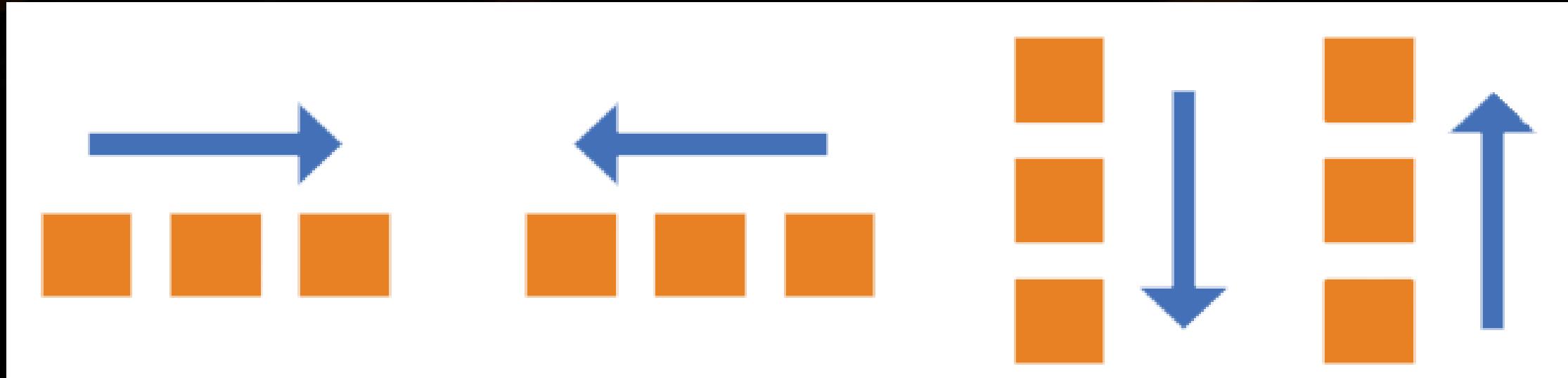
```
<div class="flex-container">  
  <div class="flex-item">Flex Item 1</div>  
  <div class="flex-item">Flex Item 2</div>  
  <div class="flex-item">Flex Item 3</div>  
</div>
```



```
.flex-container {  
  display: inline-flex;  
  border: 2px solid black;  
}
```

```
.flex-item {  
  margin-right: 5px;  
  padding: 20px;  
  background: #ff882e; }
```

Flex Container Properties: Flex Direction



flex-direction: row

flex-direction: row-reverse

flex-direction: column

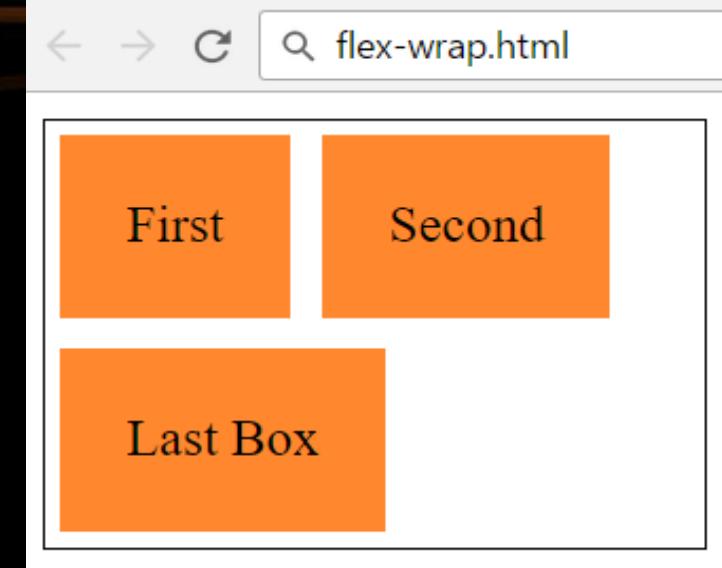
flex-direction: column-reverse

Flex Container Properties: Flex Wrap

```
<div class="flex-container">  
  <div class="flex-item">First</div>  
  <div class="flex-item">Second</div>  
  <div class="flex-item">Last Box</div>  
</div>
```

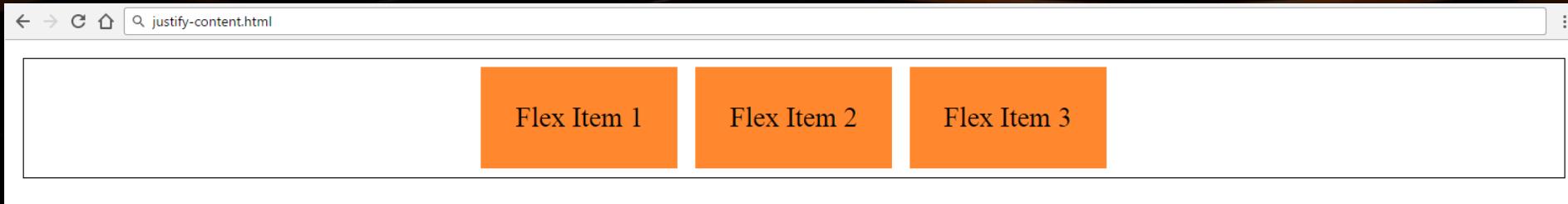
.flex-container {
 display: flex;
 flex-wrap: wrap;
 width: 200px;
 border: 1px solid black;
}

flex-wrap:
no-wrap / wrap /
wrap-reverse



```
.flex-item {  
  margin: 5px;  
  padding: 20px;  
  background: #ff882e;  
}
```

Flex Container Properties: Justify Content



```
<div class="flex-container">  
  <div class="flex-item">Flex Item 1</div>  
  <div class="flex-item">Flex Item 2</div>  
  <div class="flex-item">Flex Item 3</div></div>
```

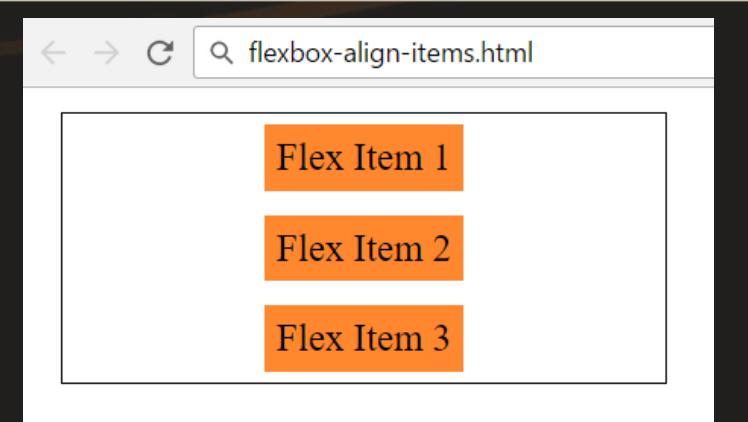
```
.flex-container {  
  display: flex;  
  justify-content: center;  
  border: 1px solid black;  
  margin: 10px; }
```

Align along
the main axis

```
.flex-item {  
  margin: 5px;  
  padding: 20px;  
  background: #ff882e;  
}
```

Flex Container Properties: Align Items

```
<div class="flex-container">  
  <div class="flex-item">Flex Item</div>  
  <div class="flex-item">Flex Item</div>  
  <div class="flex-item">Flex Item</div>  
</div>
```



```
.flex-container {  
  display: flex;  
  align-items: center;  
  flex-direction: column;  
  border: 1px solid black;  
  margin: 10px; }
```

Align along
the cross axis

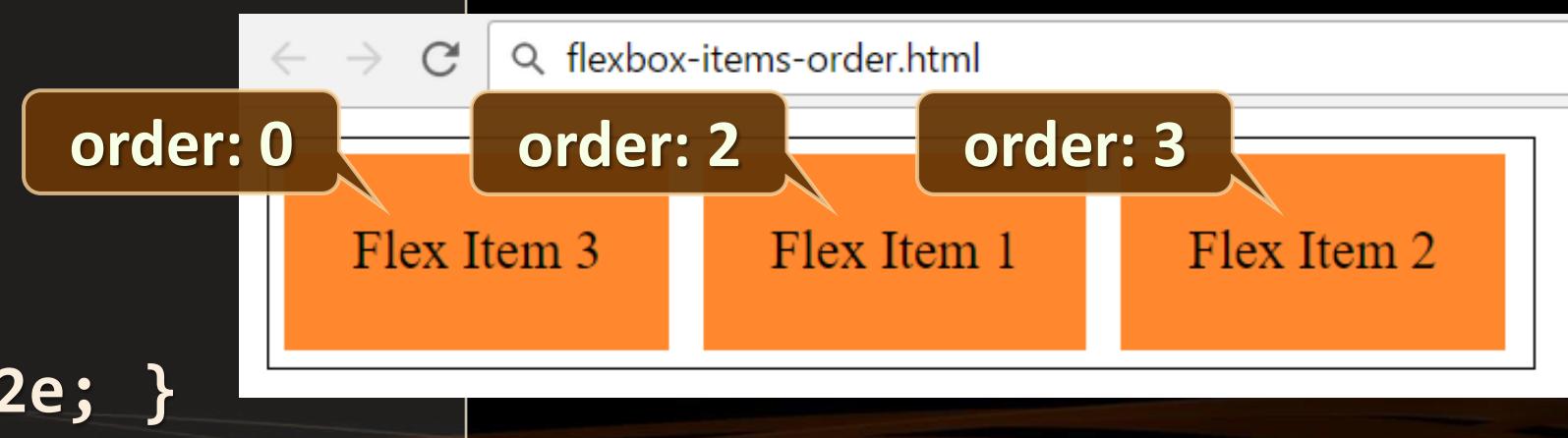
```
.flex-item {  
  margin: 5px;  
  padding: 20px;  
  background: #ff882e;  
}
```

Children Flexbox Properties: Order

```
<div class="flex-container">  
  <div class="flex-item flex-item01">Flex Item 1</div>  
  <div class="flex-item flex-item02">Flex Item 2</div>  
  <div class="flex-item flex-item03">Flex Item 3</div>  
</div>
```

```
.flex-container {  
  border: 1px solid black;  
  display: flex;  
}  
  
.flex-item {  
  margin: 5px;  
  padding: 20px;  
  background: #ff882e; }
```

```
.flex-item01 { order: 2; }  
.flex-item02 { order: 3; }
```



Children Properties: Grow and Shrink

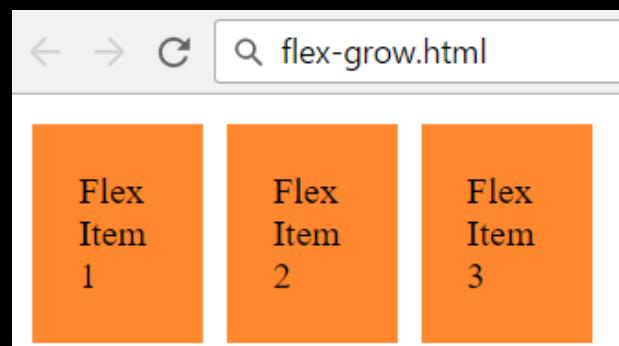
```
<div class="flex-container">  
  <div class="flex-item flex-item01">Flex Item 1</div>  
  <div class="flex-item flex-item02">Flex Item 2</div>  
  <div class="flex-item flex-item03">Flex Item 3</div></div>
```

```
.flex-container {  
  display: flex;  
  border: 1px solid black;  
}
```



```
.flex-item {  
  margin: 5px;  
  padding: 20px;  
  background: #ff882e; }
```

```
.flex-item01 {  
  flex-grow: 1;  
}
```



Children Properties: Grow and Shrink

```
<div class="flex-container">  
  <div class="flex-item flex-item01">Flex Item 1</div>  
  <div class="flex-item flex-item02">Flex Item 2</div>  
  <div class="flex-item flex-item03">Flex Item 3</div></div>
```

```
.flex-container {  
  display: flex;  
  border: 1px solid black;  
}
```

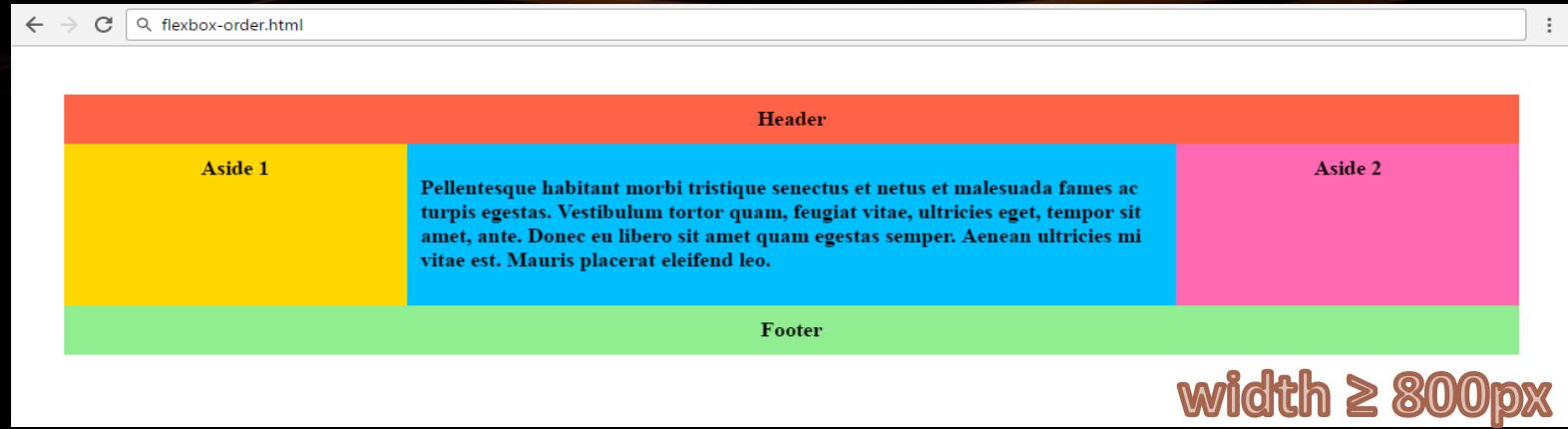
```
.flex-item {  
  margin: 5px;  
  padding: 20px;  
  background: #ff882e; }
```



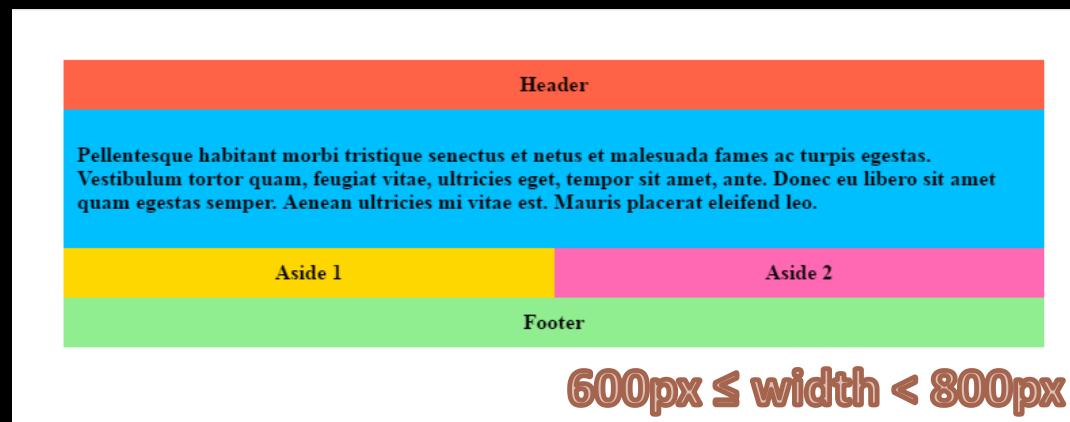
```
.flex-item01 { flex-grow: 20; }  
.flex-item02 { flex-grow: 80; }  
.flex-item03 { flex-grow: 0; }
```

Problem: FlexBox Order

- You are given the HTML file for a Web site
- Write the CSS and media queries
 - at 800px
 - at 600px



width ≥ 800px



600px ≤ width < 800px

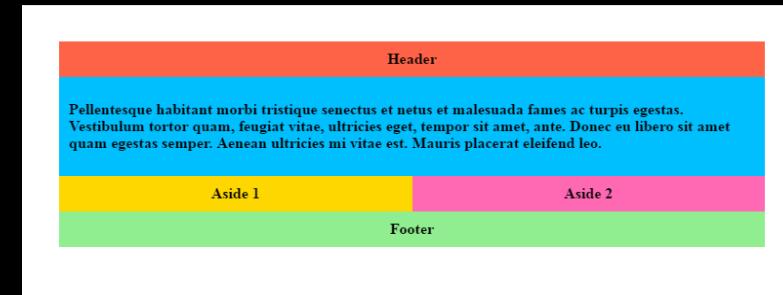
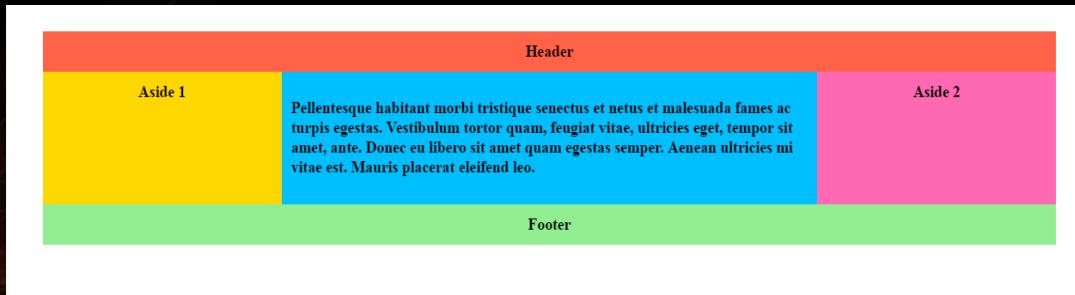


width < 600px

Hint: <https://css-tricks.com/snippets/css/a-guide-to-flexbox/#flexbox-examples>

Solution: FlexBox Order HTML

```
<header class="header">Header</header>
<article class="main-article">
    <p>Pellentesque habitant...</p>
</article>
<aside class="aside aside-1">Aside 1</aside>
<aside class="aside aside-2">Aside 2</aside>
<footer class="footer">Footer</footer>
```



Solution: FlexBox Order CSS

```
body {  
    display: flex;  
    flex-flow: row wrap;  
    font-weight: bold;  
    text-align: center;  
    padding: 30px; }  
  
body > * {  
    padding: 10px;  
    flex: 1 100%; }  
  
.header {  
    background: tomato;  
}  
  
.main-article {  
    text-align: left;  
    background: deepskyblue;  
}  
  
.aside-1 {  
    background: gold;  
}  
  
.aside-2 {  
    background: hotpink; }  
  
.footer {  
    background: lightgreen;  
}
```

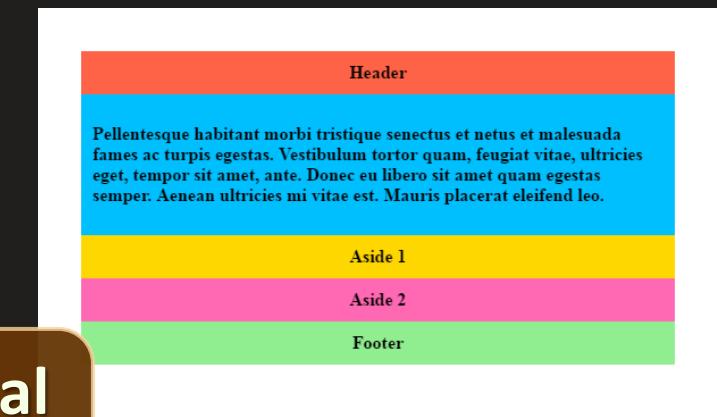
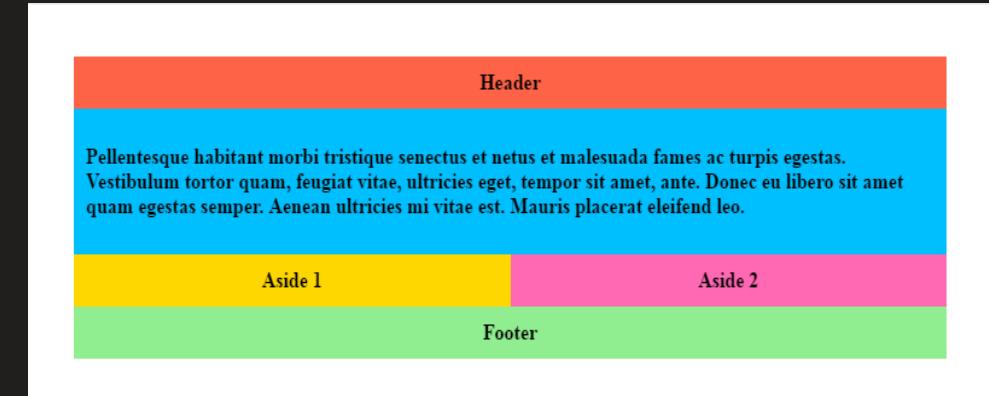
Solution: FlexBox Order

```
@media all and (min-width: 800px) {  
    .main-article { flex: 3 0; }  
    .aside-1 { order: 1; }  
    .main-article { order: 2; }  
    .aside-2 { order: 3; }  
    .footer { order: 4; }  
}
```

```
@media all and (min-width: 600px) {  
    .aside { flex: 1 0; }  
}
```

flex-grow

flex-basis (initial
main size)





Flexible Images

Making image elements - Responsive

Flexible Images: Use "max-width"

```
<div class="image-container">  
    
</div>
```

```
.image-container {  
  border: 2px solid black;  
}  
img {  
  max-width: 100%;  
  height: auto;  
}
```



max-width overrides
the width property



contact-form.html

Responsive ▾ 800 × 680 100% ▾

Contact Form

Surname*

City*

Name*

Phone number*

E-mail*

Information*

Company*

Comment*

Company Address*

Message*

Postcode*

Send

contact-form.html

Responsive ▾ 660 × 680 100% ▾

Contact Form

Surname*

Name*

E-mail*

Company*

Company Address*

Postcode*

City*

Phone number*

Information*

Comment*

Message*

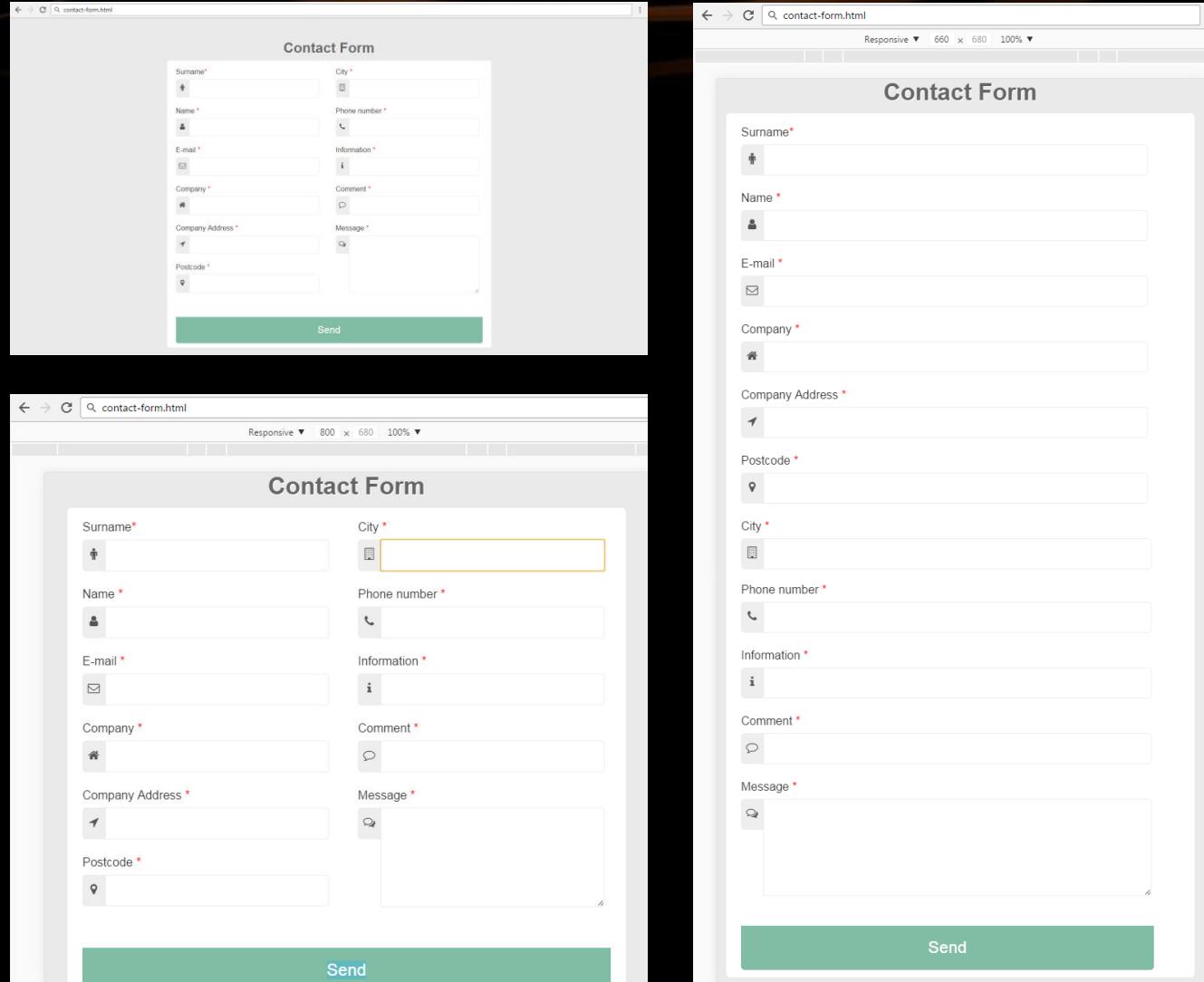
Send

Responsive Forms

Making Form elements - Responsive

Problem: Contact Form

- You are given the HTML file and CSS file
- Write the missing media queries
 - at 660px
 - at 800px



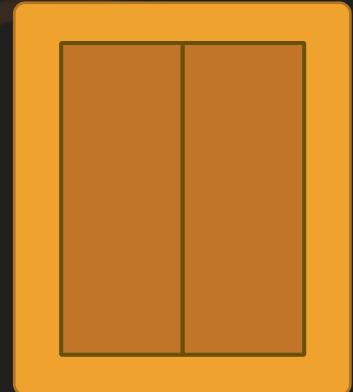
The image displays three screenshots of a "Contact Form" on a web browser, illustrating its responsive design across different screen widths.

- Top Screenshot (660px):** Shows the form in a compact layout. The "City" field has a placeholder icon of a city skyline. The "Send" button is a solid green rectangle.
- Middle Screenshot (800px):** Shows the form with more horizontal space. The "City" field now has a placeholder icon of a telephone handset. The "Send" button is a solid green rectangle.
- Bottom Screenshot (100% responsive):** Shows the form fully expanded. The "City" field has a placeholder icon of a telephone handset. The "Send" button is a solid green rectangle.

The form fields include:
- Surname*: Input field with person icon.
- Name*: Input field with person icon.
- E-mail*: Input field with envelope icon.
- Company*: Input field with house icon.
- Company Address*: Input field with location pin icon.
- Postcode*: Input field with location pin icon.
- City*: Input field with city skyline icon.
- Phone number*: Input field with telephone handset icon.
- Information*: Input field with information icon.
- Comment*: Input field with speech bubble icon.
- Message*: Input field with magnifying glass icon.

Solution: Contact Form (HTML + CSS)

```
<form>
  <div class="left-contact">...</div>
  <div class="right-contact">...</div>
  <button class="button-contact">Send</button>
</form>
```



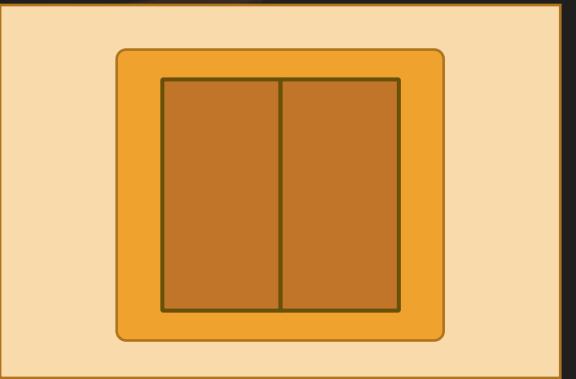
```
form { padding: 10px 20px; }
```

```
.left-contact {
  float: left;
  width: 50%;
  box-sizing: border-box;
}
```

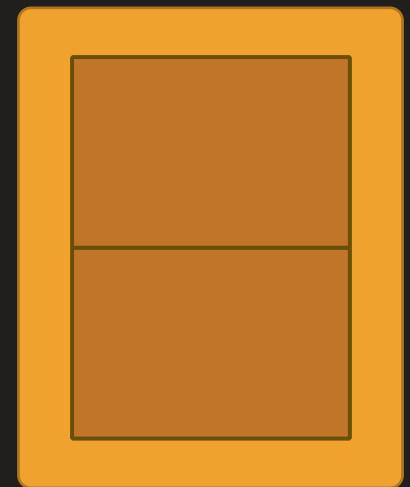
```
.right-contact {
  float: right;
  width: 50%;
  box-sizing: border-box;
}
```

Solution: Contact Form

```
@media all and (max-width: 800px) {  
    form {  
        max-width: calc(100% - 40px);  
    }  
}
```



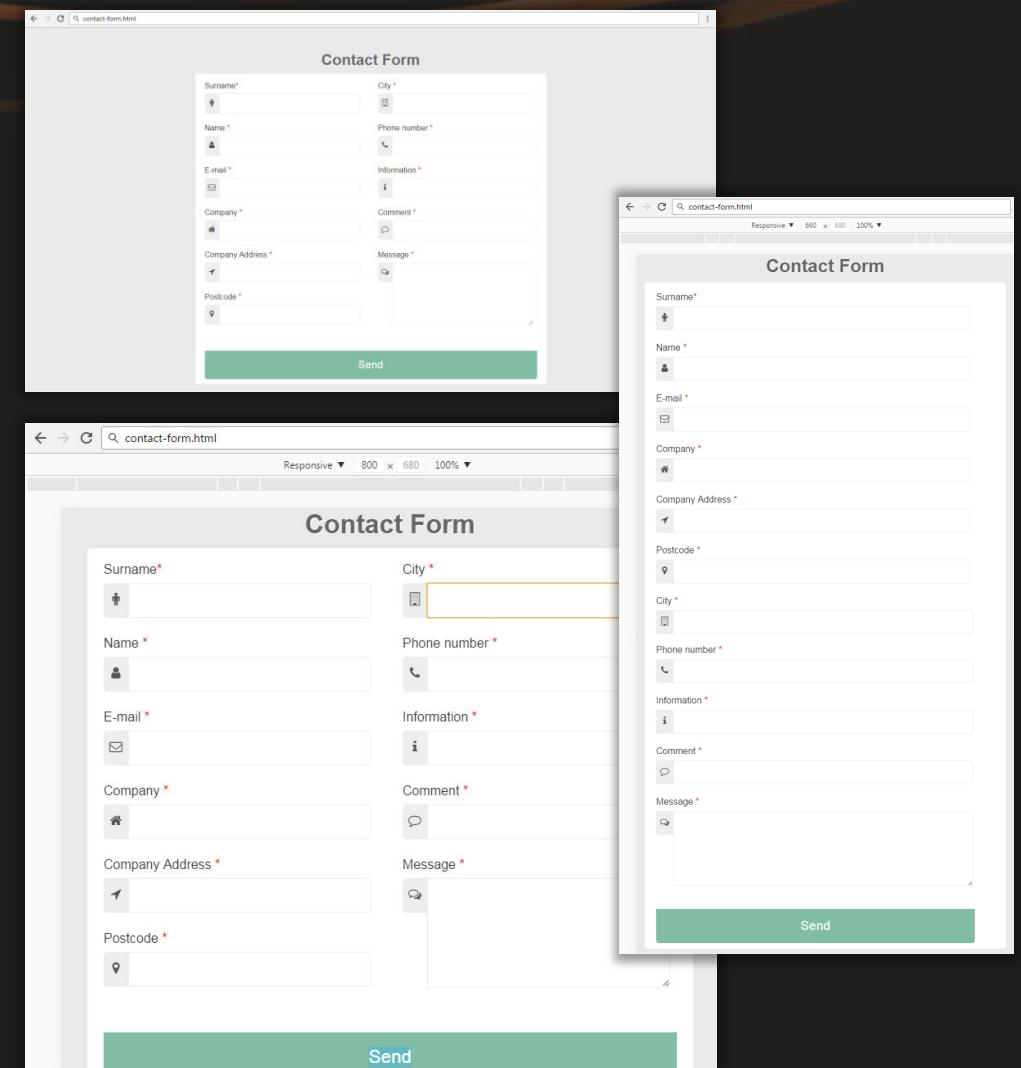
```
@media all and (max-width: 660px) {  
    .left-contact, .right-contact {  
        width: 100%;  
        padding: 0;  
    }  
}
```



Solution: Contact Form (2)

```
@media all and (max-width: 600px)
```

```
.right-contact input {  
    width: calc(100% - 70px);  
}  
  
textarea {  
    width: calc(100% - 100px);  
}  
  
.button-contact {  
    width: calc(100% - 35px);  
}  
}
```



	Monday	Tuesday	Wednesday	Thursday	Friday
07:45 1 08:35	Lesson	Lesson	Lesson	Lesson	Lesson
08:35 2 09:25	Lesson	Lesson	Lesson	Lesson	Lesson
09:25 3 10:20	Lesson	Lesson	Lesson	Lesson	Lesson
10:20 4 11:25	Lesson	Lesson	Lesson	Lesson	Lesson
11:25 5 12:20	Lesson	Lesson	Lesson	Lesson	Lesson
12:20 6 13:10	Lesson	Lesson	Lesson	Lesson	Lesson
13:10 7 14:00	Lesson	Lesson	Lesson	Lesson	Lesson

Timetable	
07:45 1 08:35	Lesson
Monday	Lesson
Tuesday	Lesson
Wednesday	Lesson
Thursday	Lesson
Friday	Lesson
08:35 2 09:25	
Monday	Lesson
Tuesday	Lesson
Wednesday	Lesson
Thursday	Lesson
Friday	Lesson
09:25 3 10:20	
Monday	Lesson
Tuesday	Lesson
Wednesday	Lesson
Thursday	Lesson
Friday	Lesson

Flexible Tables

Making tables - Responsive

Problem: Bank Credit

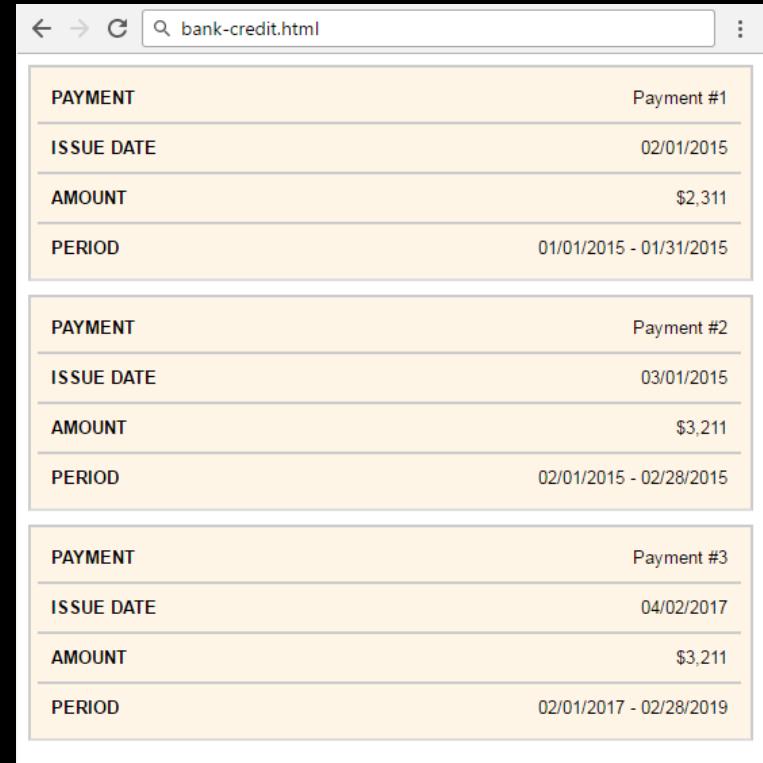
- You are given the HTML file:



PAYMENT	ISSUE DATE	AMOUNT	PERIOD
Payment #1	02/01/2015	\$2,311	01/01/2015 - 01/31/2015
Payment #2	03/01/2015	\$3,211	02/01/2015 - 02/28/2015
Payment #3	04/02/2017	\$3,211	02/01/2017 - 02/28/2019

- Make the HTML table responsive like at the screenshot on the right

- Add media query at **max-width: 600px**



PAYMENT	Payment #1
ISSUE DATE	02/01/2015
AMOUNT	\$2,311
PERIOD	01/01/2015 - 01/31/2015
PAYMENT	Payment #2
ISSUE DATE	03/01/2015
AMOUNT	\$3,211
PERIOD	02/01/2015 - 02/28/2015
PAYMENT	Payment #3
ISSUE DATE	04/02/2017
AMOUNT	\$3,211
PERIOD	02/01/2017 - 02/28/2019

Solution: Bank Credit (HTML)

```
<!--TODO: Create Table-->
```

```
<thead>
```

```
<tr>
```

```
    <th>Payment</th>
```

```
    <th>Issue Date</th>
```

```
    <th>Amount</th>
```

```
    <th>Period</th>
```

```
  </tr></thead>
```

```
<tbody><tr>
```

```
    <td data-label="Payment">Payment #1</td>
```

```
    <td data-label="Issue Date">02/01/2015</td>
```

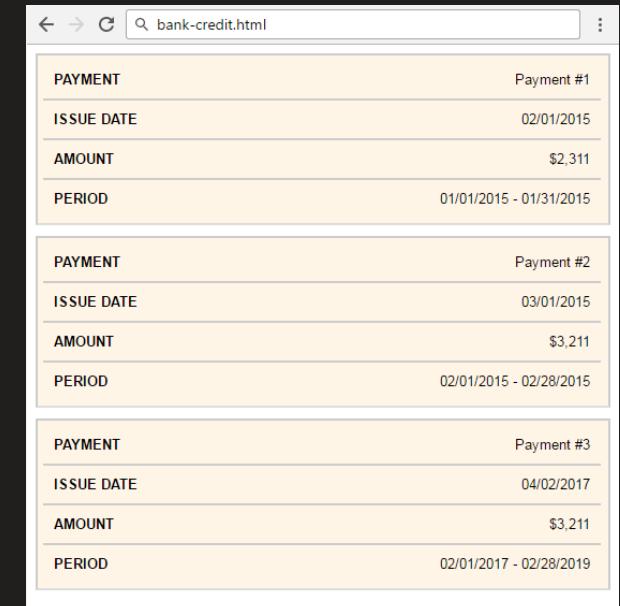
```
    <td data-label="Amount">$2,311</td>
```

```
    <td data-label="Period">01/01/2015 - 01/31/2015</td>
```

```
</tr></tbody>
```



PAYMENT	ISSUE DATE	AMOUNT	PERIOD
Payment #1	02/01/2015	\$2,311	01/01/2015 - 01/31/2015
Payment #2	03/01/2015	\$3,211	02/01/2015 - 02/28/2015
Payment #3	04/02/2017	\$3,211	02/01/2017 - 02/28/2019



PAYMENT	Payment #1
ISSUE DATE	02/01/2015
AMOUNT	\$2,311
PERIOD	01/01/2015 - 01/31/2015

PAYMENT	Payment #2
ISSUE DATE	03/01/2015
AMOUNT	\$3,211
PERIOD	02/01/2015 - 02/28/2015

PAYMENT	Payment #3
ISSUE DATE	04/02/2017
AMOUNT	\$3,211
PERIOD	02/01/2017 - 02/28/2019

Solution: Bank Credit (CSS)

```
body {  
    font-family: 'Arial', serif;  
}
```

```
table {  
    border: 1px solid #ccc;  
    width: 100%;  
    margin: 0;  
    padding: 0;  
    border-collapse: collapse;  
    border-spacing: 0;  
}
```

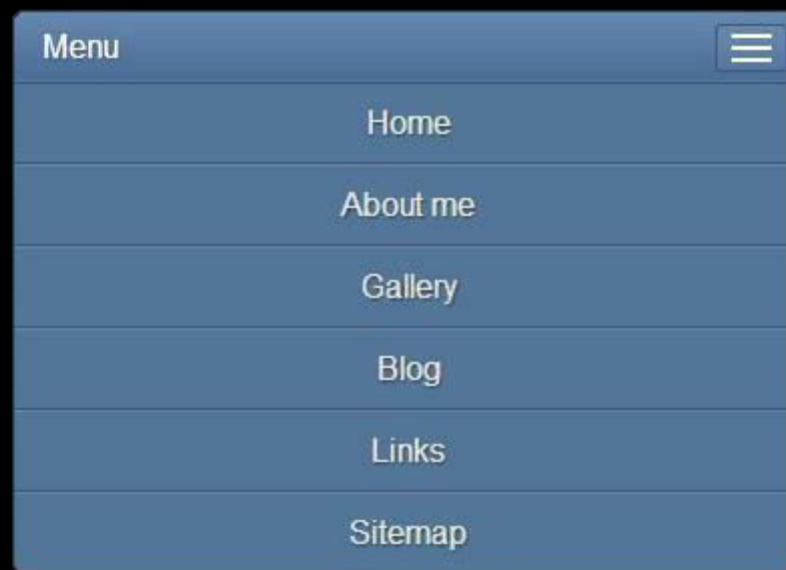
```
table tr {  
    border: 2px solid #ccc;  
    padding: 5px;  
    background: #fff8b7; }  
table th, table td {  
    padding: 10px;  
    text-align: center; }  
table th {  
    text-transform: uppercase;  
    font-size: 14px;  
    letter-spacing: 1px;  
}
```

Solution: Bank Credit (CSS) (2)

```
@media screen and (max-width:600px) {  
table {  
    border: 0;  
}  
thead tr {  
    position: absolute;  
    top: -9999px;  
    left: -9999px;  
}  
table tr {  
    margin-bottom: 10px;  
    display: block;  
    border-bottom: 2px solid #ddd;  
    background: #fff5e7;  
}
```

```
table td::before {  
    content: attr(data-label);  
    float: left;  
    text-transform: uppercase;  
    font-weight: bold;  
}  
table td {  
    display: block;  
    text-align: right;  
    font-size: 13px;  
    border-bottom: 2px solid #ccc;  
}  
table td:last-child {  
    border-bottom: 0;  
} }
```

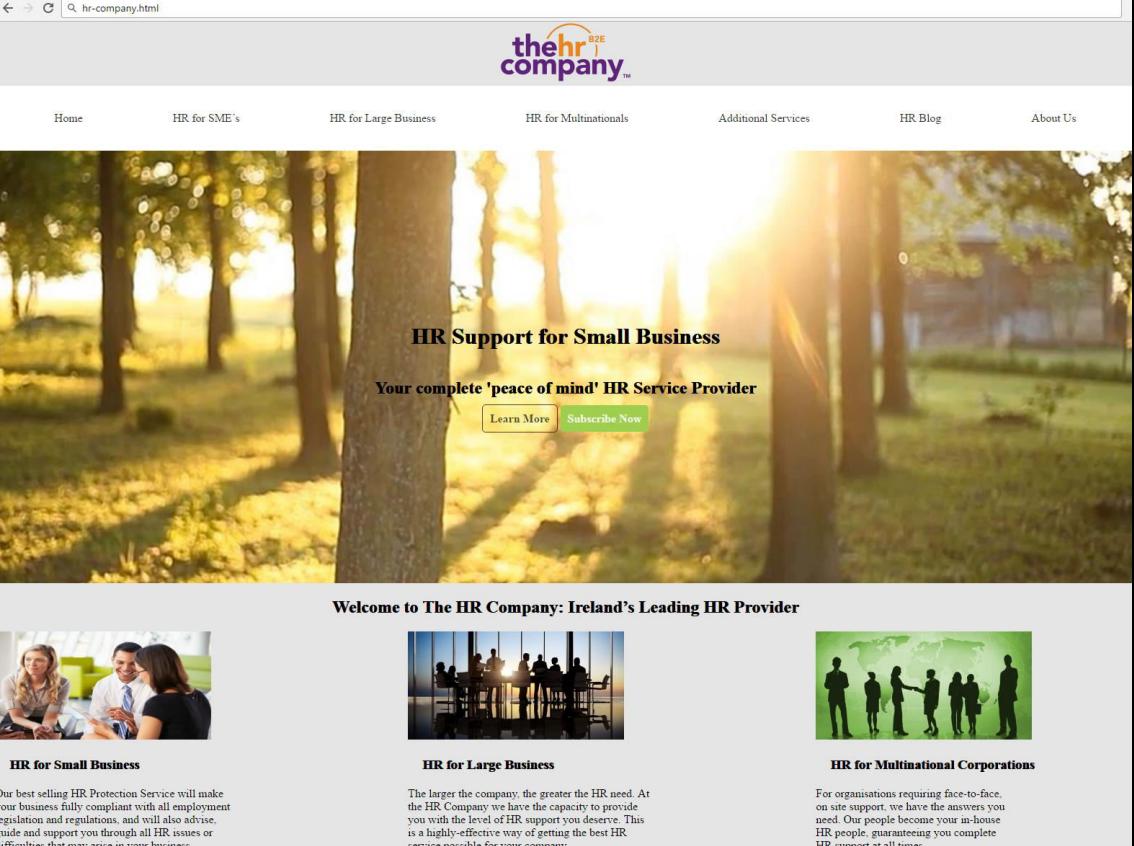
Home About me Gallery Blog Links Sitemap



Responsive Navigation Menu

Making Navigation Menu - Responsive

Problem: HR Company



The screenshot shows the homepage of the HR Company website. The header features the company logo 'the hr company' with a small 'B2B' badge. The navigation menu includes links for Home, HR for SME's, HR for Large Business, HR for Multinationals, Additional Services, HR Blog, and About Us. The main visual is a large photograph of a sunlit forest with the text 'HR Support for Small Business' overlaid. Below the photo are two buttons: 'Learn More' and 'Subscribe Now'. The footer contains sections for 'Welcome to The HR Company: Ireland's Leading HR Provider', 'HR for Small Business', 'HR for Large Business', and 'HR for Multinational Corporations', each with a small image and a brief description.



This screenshot shows a specific page for 'HR Support for Small Business'. It features a large forest photograph with the same overlay text. Below it is a section titled 'Welcome to The HR Company: Ireland's Leading HR Provider' with a photo of three people. The page also includes sections for 'HR for Small Business' and 'HR for Large Business' with their respective descriptions and images.



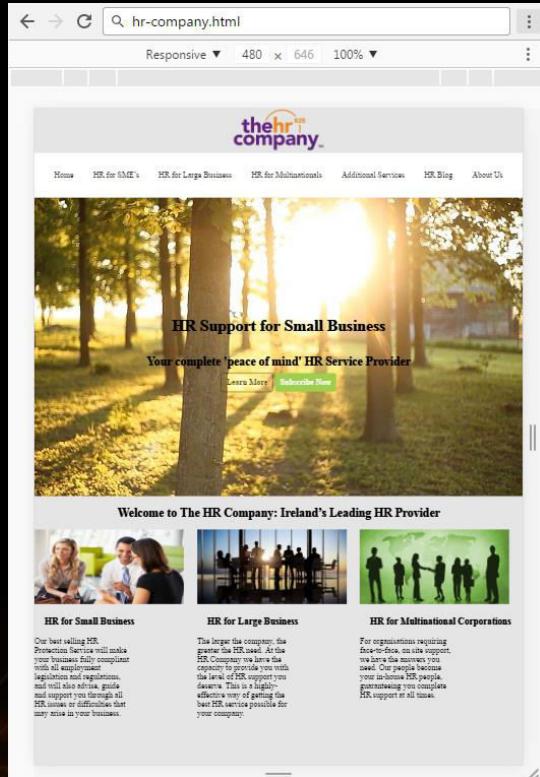
This screenshot shows a specific page for 'HR for Large Business'. It features a large forest photograph with the same overlay text. Below it is a section titled 'Welcome to The HR Company: Ireland's Leading HR Provider' with a photo of three people. The page also includes sections for 'HR for Small Business', 'HR for Large Business', and 'HR for Multinational Corporations' with their respective descriptions and images.

Solution: HR Company

```
@media all and (max-width: 880px) {  
  .business {  
    display: block;  
  }  
  .learn-more {  
    display: block;  
    margin-bottom: 25px;  
  }  
  .business article {  
    text-align: center;  
  }  
  main h2 { font-size: 1.4em; }  
  .top-list {  
    display: none;  
    height: auto; }  
}
```

```
article p {  
  max-width: 100%;  
}  
#menu-icon {  
  display: inline-block;  
}  
nav li {  
  text-align: center;  
  width: 100%;  
  padding: 10px 0;  
  margin: 0;  
  background: #f6f6f6;  
}  
nav:hover ul.top-list {  
  display: block;  
}
```

■ Very Important for Mobile Sites



`<meta name="viewport" content="width=device-width, initial-scale=1.0">`



Summary

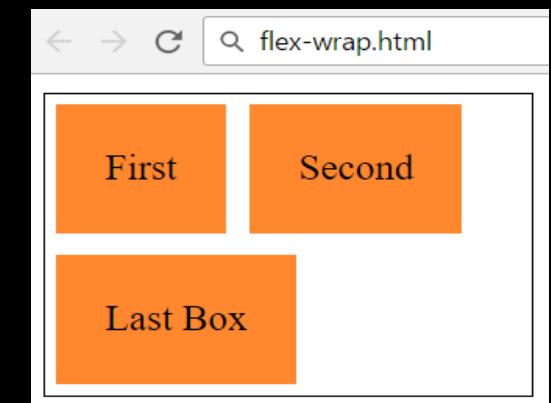
- Media queries allow different CSS for different screen sizes

```
@media screen and (max-width: 640px) {  
    .box { display: block }  
}
```

- Flexbox is very powerful!

```
.flex-container {  
    display: flex;  
    flex-wrap: wrap;  
}
```

Summary



Web Fundamentals – Course Introduction



Questions?



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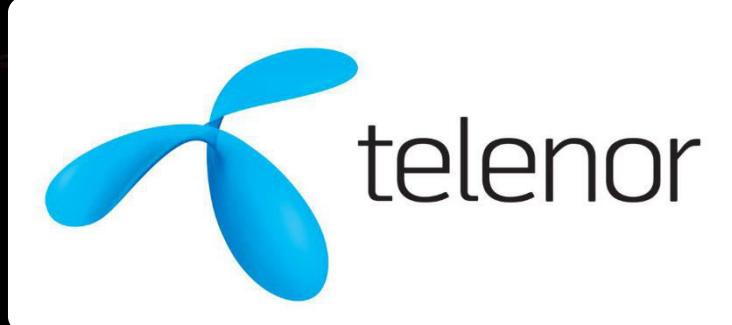
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