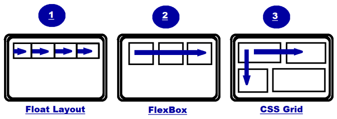
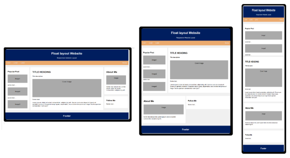
Web Design & Development I

IDD103

Layout and Responsive design





Prepared by Mr. Kinley Tshering

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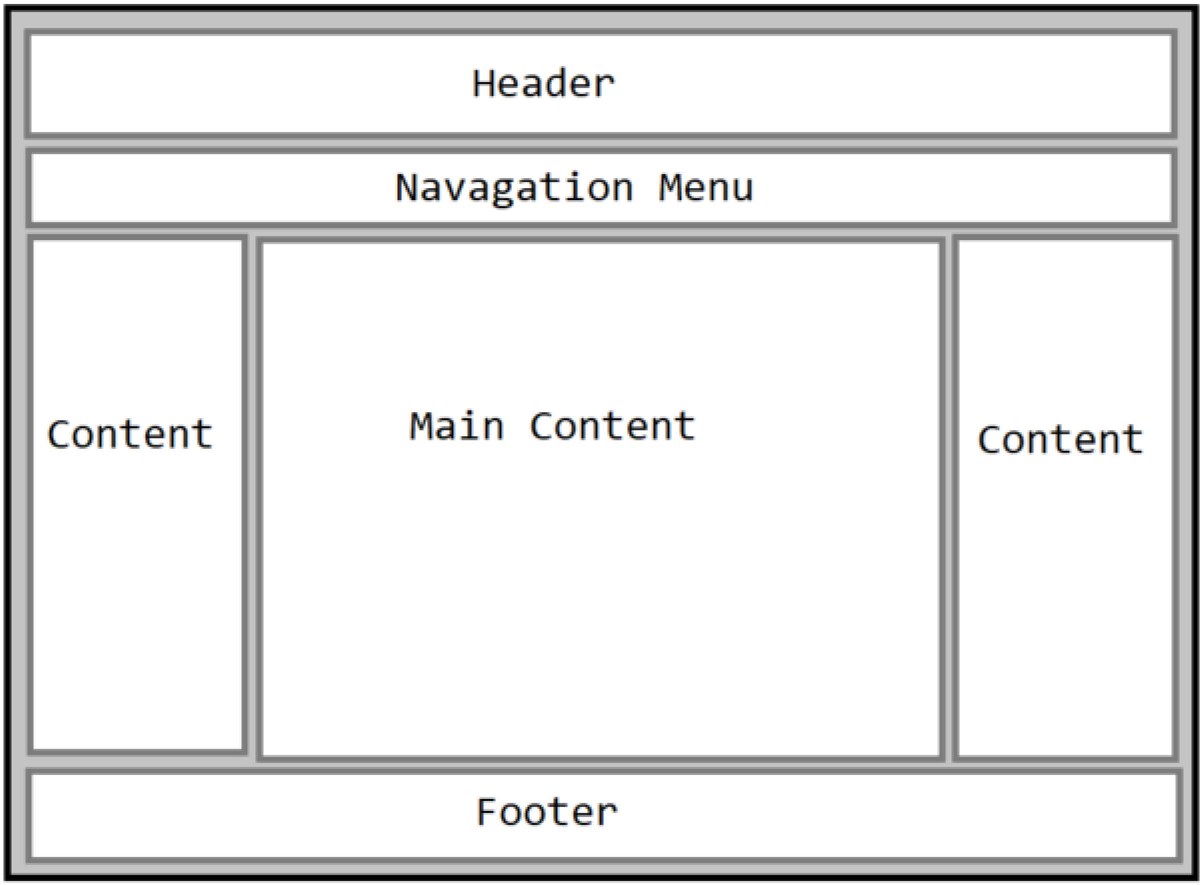
What is the website layout?

- Layout is the way text, images and other content is placed and arranged on the webpage
- Layout gives the page a visual structure, into which we place our content.
- A website is often divided into headers, menus, content and a footer:
- There are tons of different layout designs to choose from. However, the structure given below is one of the most common.



Header

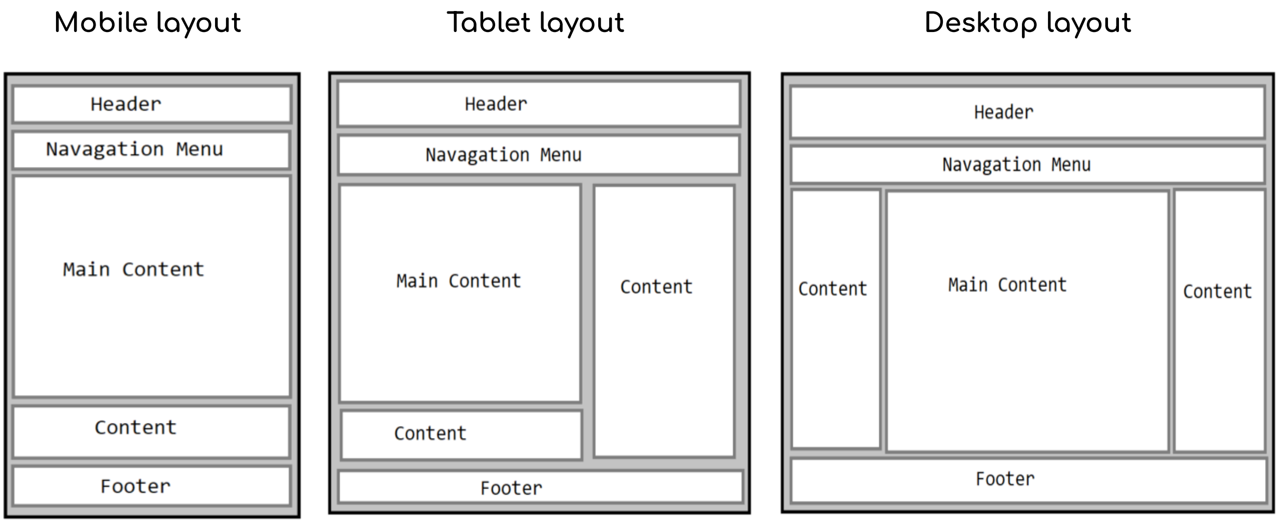
- A header is usually located at the top of the website.
- It often contains a logo or the website name.

Navigation Bar

- A navigation bar contains a list of links to help visitors navigate through your website.

Content

- The layout often depends on the target users. The most common layout is one of the following:
    - 1-column (often used for mobile browsers)
    - 2-column (often used for tablets and laptops)
    - 3-column layout (only used for desktops)

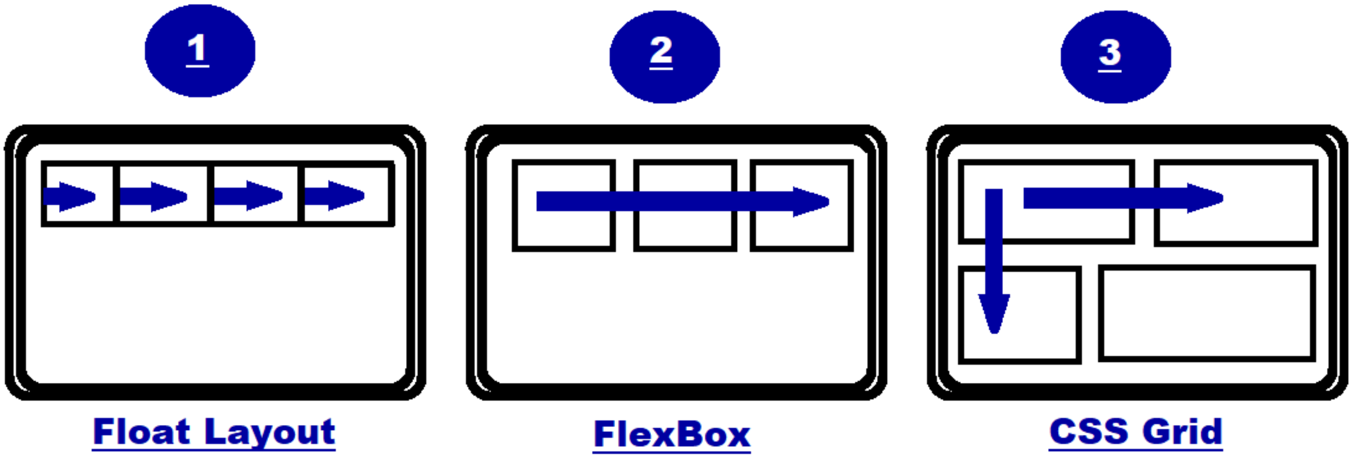


Footer

- The footer is placed at the bottom of your page. It often contains information like copyright and contact information.

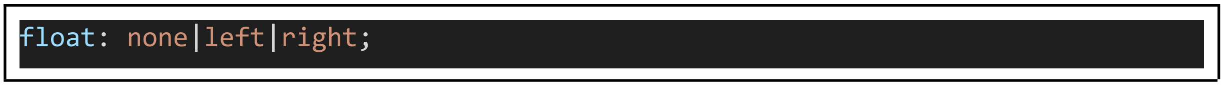
Ways of designing layouts

- Three ways of building layouts with CSS
  - Float :
    - Old way of building layout of all sizes, using float CSS property.
  - Flexbox :
    - Modern way of laying out elements in a 1-dimensional row without using floats.
  - CSS Grid :
    - Laying out elements in a fully-fledged 2-dimensional grid. Perfect for page layouts and complex components.



Float Layout

- The **`float`** property specifies whether an element should float to the left, right, or not at all.
- Syntax

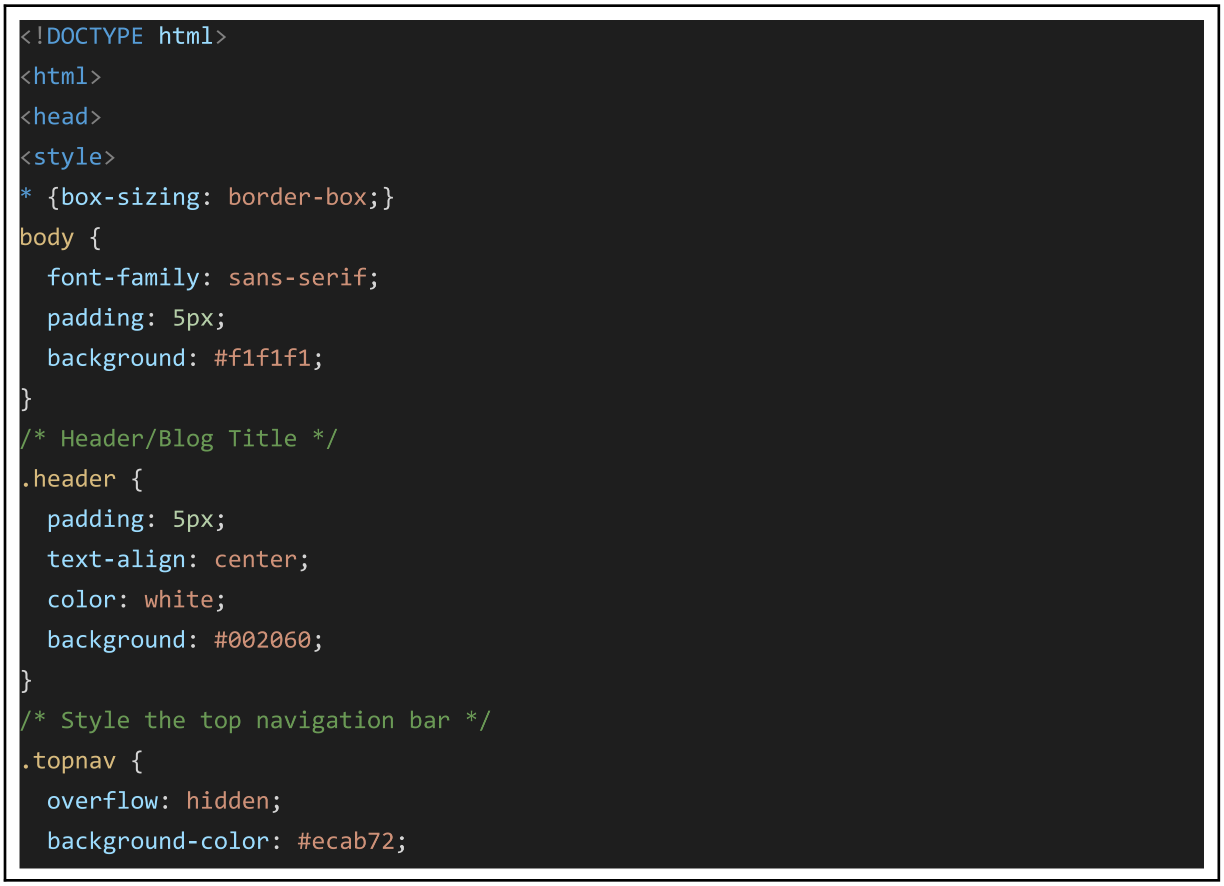


```
float: none|left|right;
```

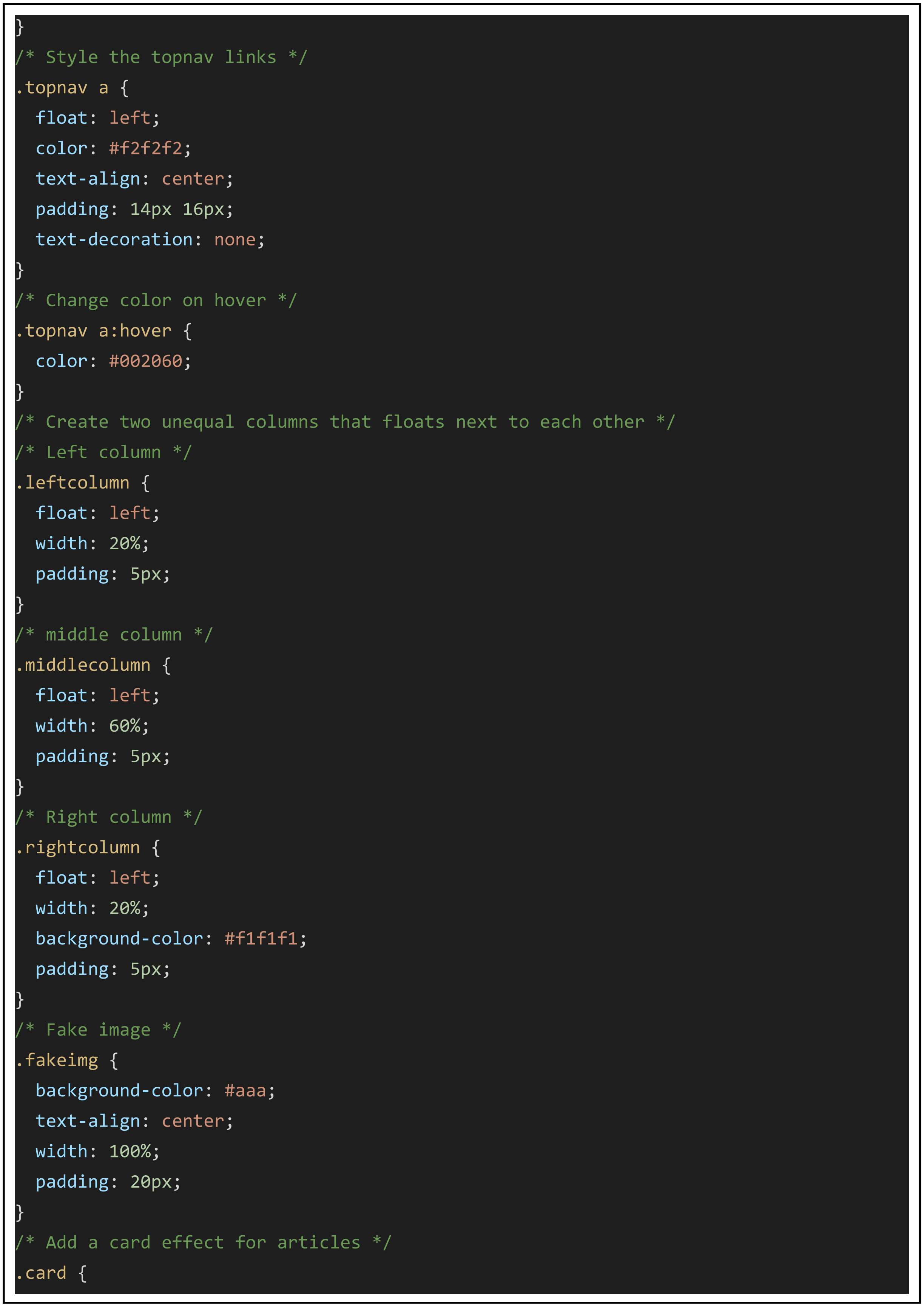
- Property Values

Value	Description
none	The element does not float, (will be displayed just where it occurs in the text). This is default
left	The element floats to the left of its container
right	The element floats the right of its container

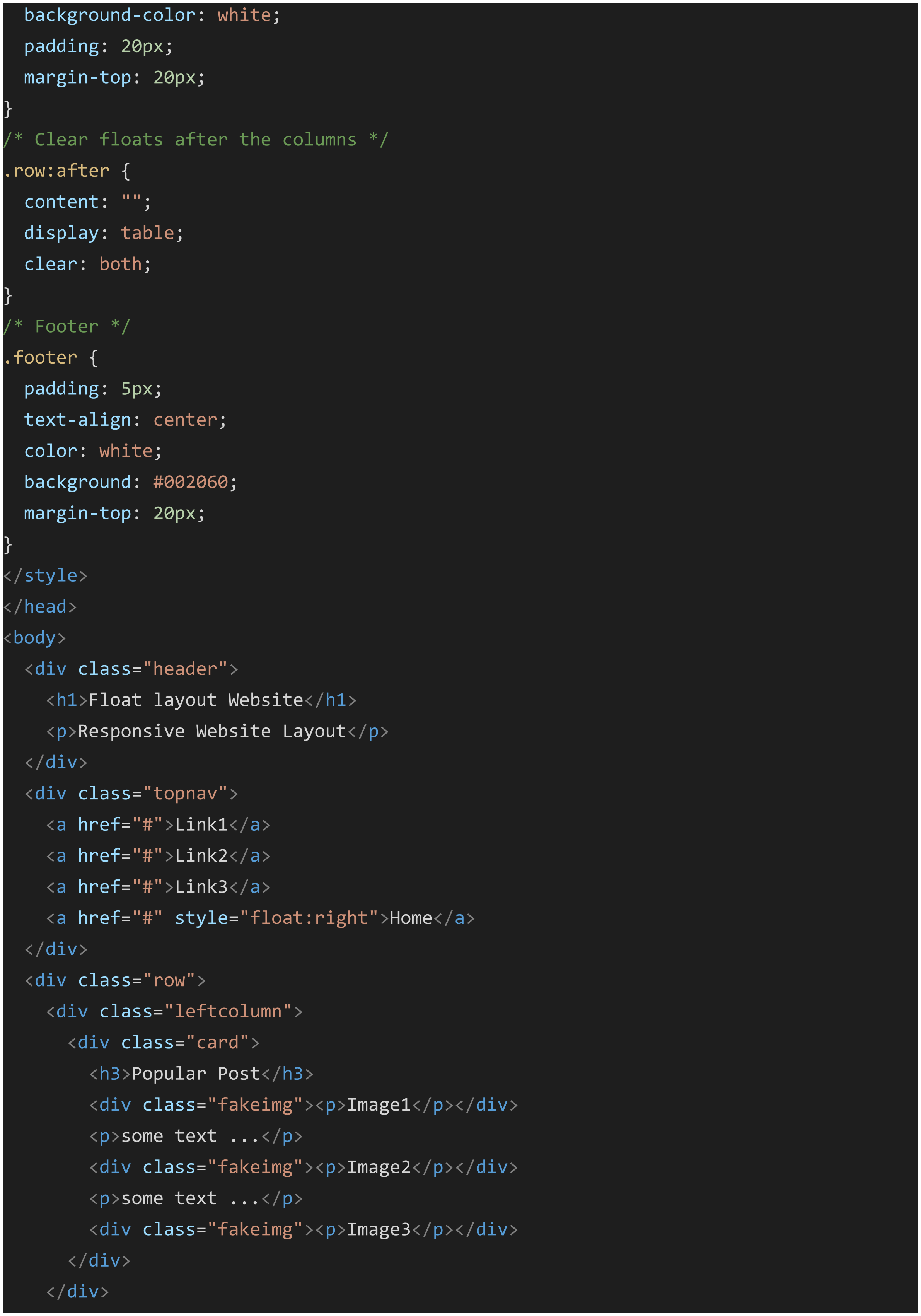
- Example



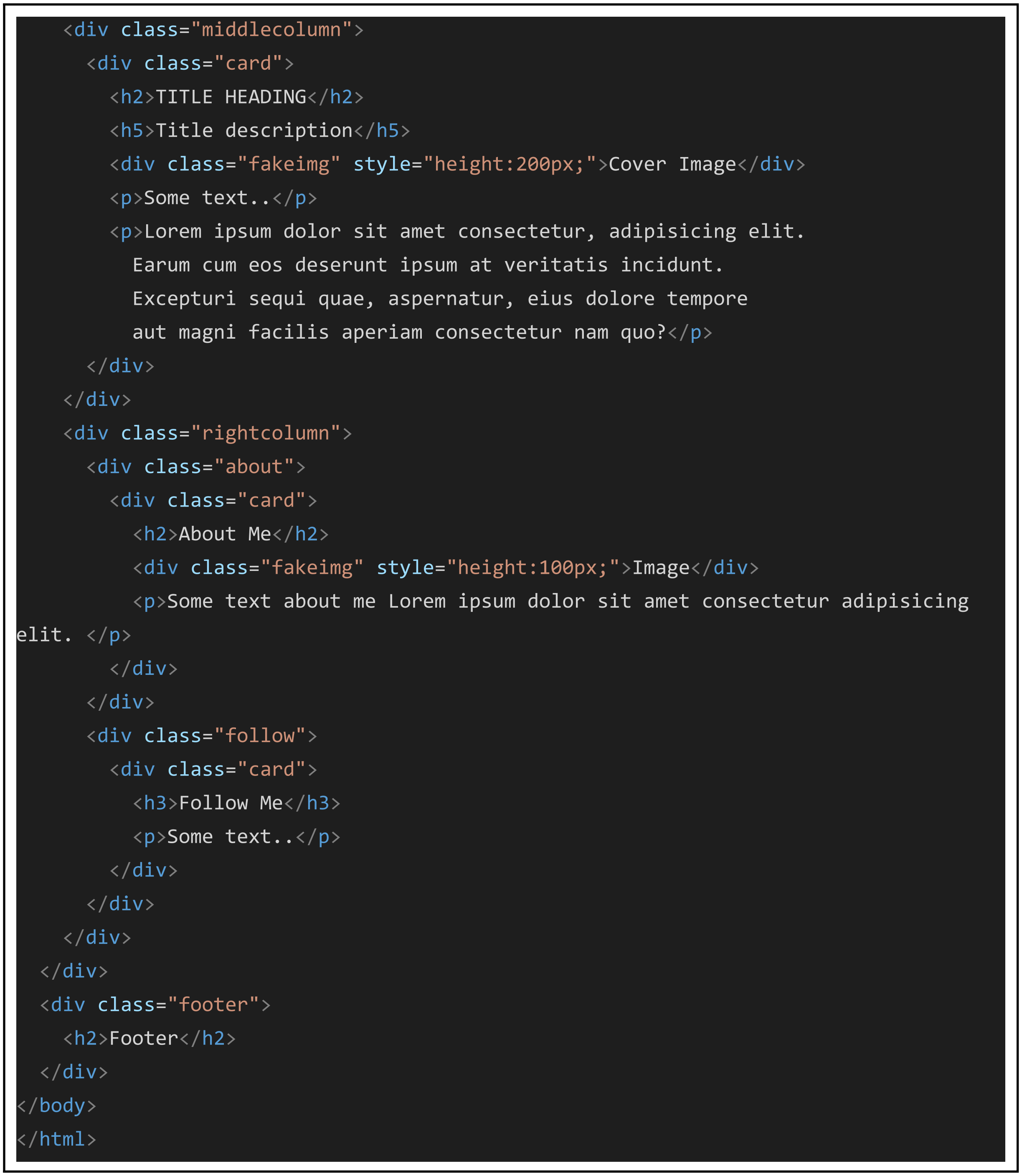
```
<!DOCTYPE html>
<html>
<head>
<style>
* {box-sizing: border-box;}
body {
  font-family: sans-serif;
  padding: 5px;
  background: #f1f1f1;
}
/* Header/Blog Title */
.header {
  padding: 5px;
  text-align: center;
  color: white;
  background: #002060;
}
/* Style the top navigation bar */
.topnav {
  overflow: hidden;
  background-color: #ecab72;
```



```
}
/* Style the topnav links */
.topnav a {
  float: left;
  color: #f2f2f2;
  text-align: center;
  padding: 14px 16px;
  text-decoration: none;
}
/* Change color on hover */
.topnav a:hover {
  color: #002060;
}
/* Create two unequal columns that floats next to each other */
/* Left column */
.leftcolumn {
  float: left;
  width: 20%;
  padding: 5px;
}
/* middle column */
.middlecolumn {
  float: left;
  width: 60%;
  padding: 5px;
}
/* Right column */
.rightcolumn {
  float: left;
  width: 20%;
  background-color: #f1f1f1;
  padding: 5px;
}
/* Fake image */
.fakeimg {
  background-color: #aaa;
  text-align: center;
  width: 100%;
  padding: 20px;
}
/* Add a card effect for articles */
.card {
```

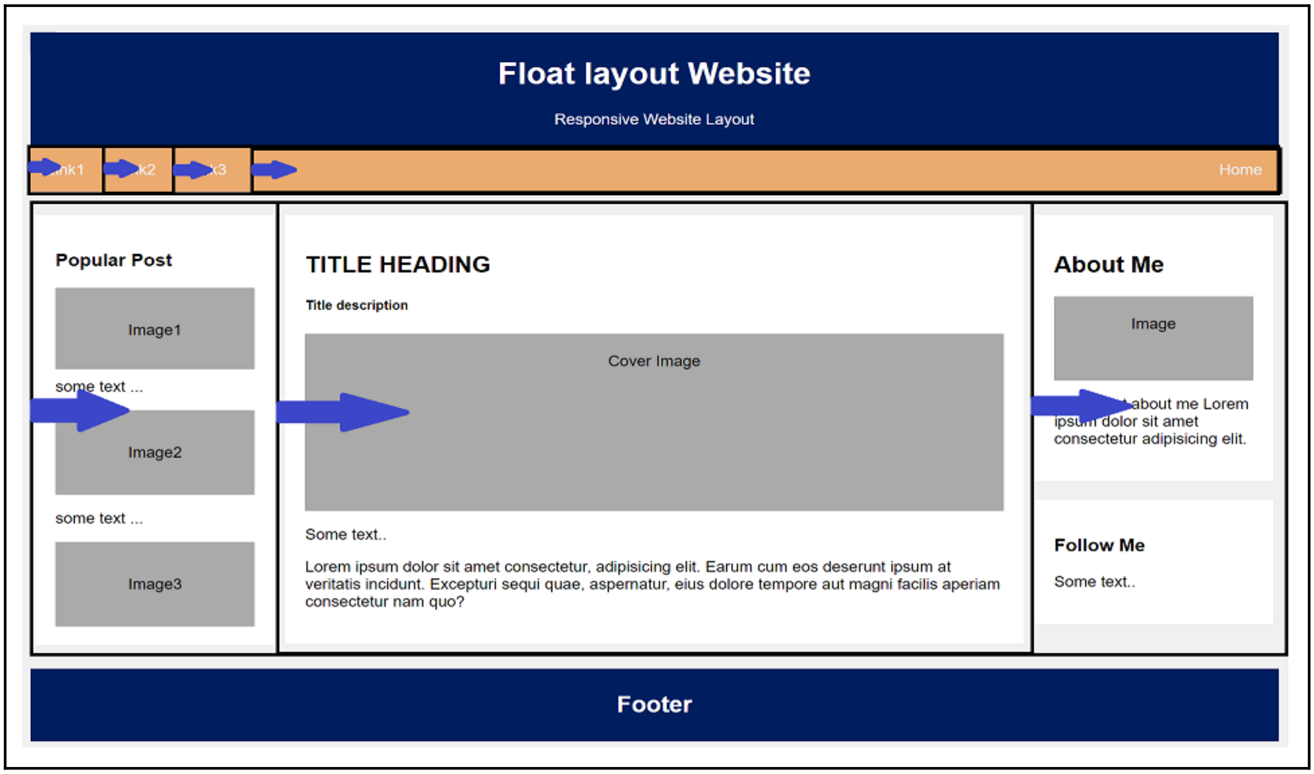


```
  background-color: white;
  padding: 20px;
  margin-top: 20px;
}
/* Clear floats after the columns */
.row:after {
  content: "";
  display: table;
  clear: both;
}
/* Footer */
.footer {
  padding: 5px;
  text-align: center;
  color: white;
  background: #002060;
  margin-top: 20px;
}
</style>
</head>
<body>
  <div class="header">
    <h1>Float layout Website</h1>
    <p>Responsive Website Layout</p>
  </div>
  <div class="topnav">
    <a href="#">Link1</a>
    <a href="#">Link2</a>
    <a href="#">Link3</a>
    <a href="#" style="float:right">Home</a>
  </div>
  <div class="row">
    <div class="leftcolumn">
      <div class="card">
        <h3>Popular Post</h3>
        <div class="fakeimg"><p>Image1</p></div>
        <p>some text ...</p>
        <div class="fakeimg"><p>Image2</p></div>
        <p>some text ...</p>
        <div class="fakeimg"><p>Image3</p></div>
      </div>
    </div>
```



```
  <div class="middlecolumn">
   <div class="card">
    <h2>TITLE HEADING</h2>
    <h5>Title description</h5>
    <div class="fakeimg" style="height:200px;">Cover Image</div>
    <p>Some text..</p>
    <p>Lorem ipsum dolor sit amet consectetur, adipisicing elit.
     Earum cum eos deserunt ipsum at veritatis incidunt.
     Excepturi sequi quae, aspernatur, eius dolore tempore
     aut magni facilis aperiam consectetur nam quo?</p>
   </div>
  </div>
  <div class="rightcolumn">
   <div class="about">
    <div class="card">
     <h2>About Me</h2>
     <div class="fakeimg" style="height:100px;">Image</div>
     <p>Some text about me Lorem ipsum dolor sit amet consectetur adipisicing
elit. </p>
    </div>
   </div>
   <div class="follow">
    <div class="card">
     <h3>Follow Me</h3>
     <p>Some text..</p>
    </div>
   </div>
  </div>
 </div>
 <div class="footer">
  <h2>Footer</h2>
 </div>
</body>
</html>
```

Output



Float layout Website

Responsive Website Layout

Popular Post

some text ...

some text ...

TITLE HEADING

Title description

Some text..

Lorem ipsum dolor sit amet consectetur, adipisicing elit. Earum cum eos deserunt ipsum at veritatis incidunt. Excepturi sequi quae, aspernatur, eius dolore tempore aut magni facilis aperiam consectetur nam quo?

About Me

about me Lorem ipsum dolor sit amet consectetur adipisicing elit.

Follow Me

Some text..

Footer

Responsive website layout

- Design technique to make a webpage adjust its layout and visual style to any possible size
- Responsive design makes websites usable on all devices, such as desktop computers, tablets and mobile phones.

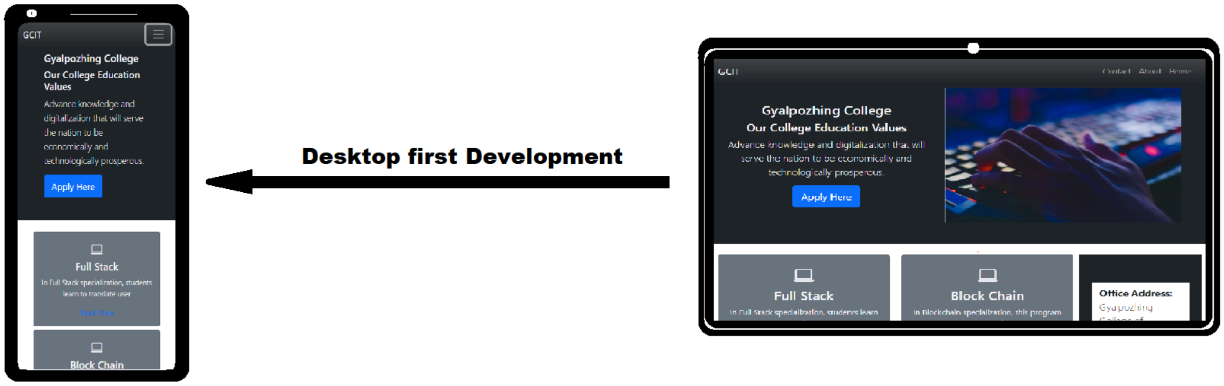
Responsive Design ingredients

- Fluid Layout:
  - To allow webpage to adapt to the current viewport width
  - Use % (or vh/vm) units of px for elements that should adapt to viewport
  - Use max-width property instead of width
- Responsive Unit:
  - Use rem unit instead of px for most lengths
  - To make it easy to scale the entire layout down/up automatically
  - Trick: setting 1 rem to 10px for easy calculation
- Flexible Image
  - By default, image don’t scale automatically as we change the viewport, so need to fix that
  - Always use % for image dimension, together with the max-width property.
- Media Queries
  - Brings responsive site to life
  - To change styles on certain viewport widths (called breakpoints)

Strategies for designing Responsive sites

1. Desktop First Development

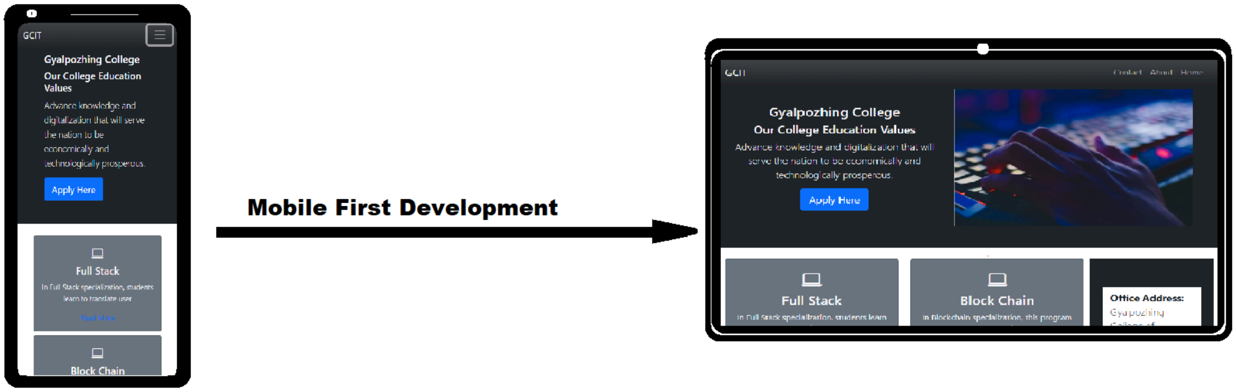
- Start writing CSS for the desktop: large screen
- Then, media queries shrink design to smaller screens



Gyalpozhing College
Our College Education Values
Advance knowledge and digitalization that will serve the nation to be economically and technologically prosperous.

2. Mobile First Development

- Start writing CSS for the mobile device: small screen
- Then, media queries expand design to large screens



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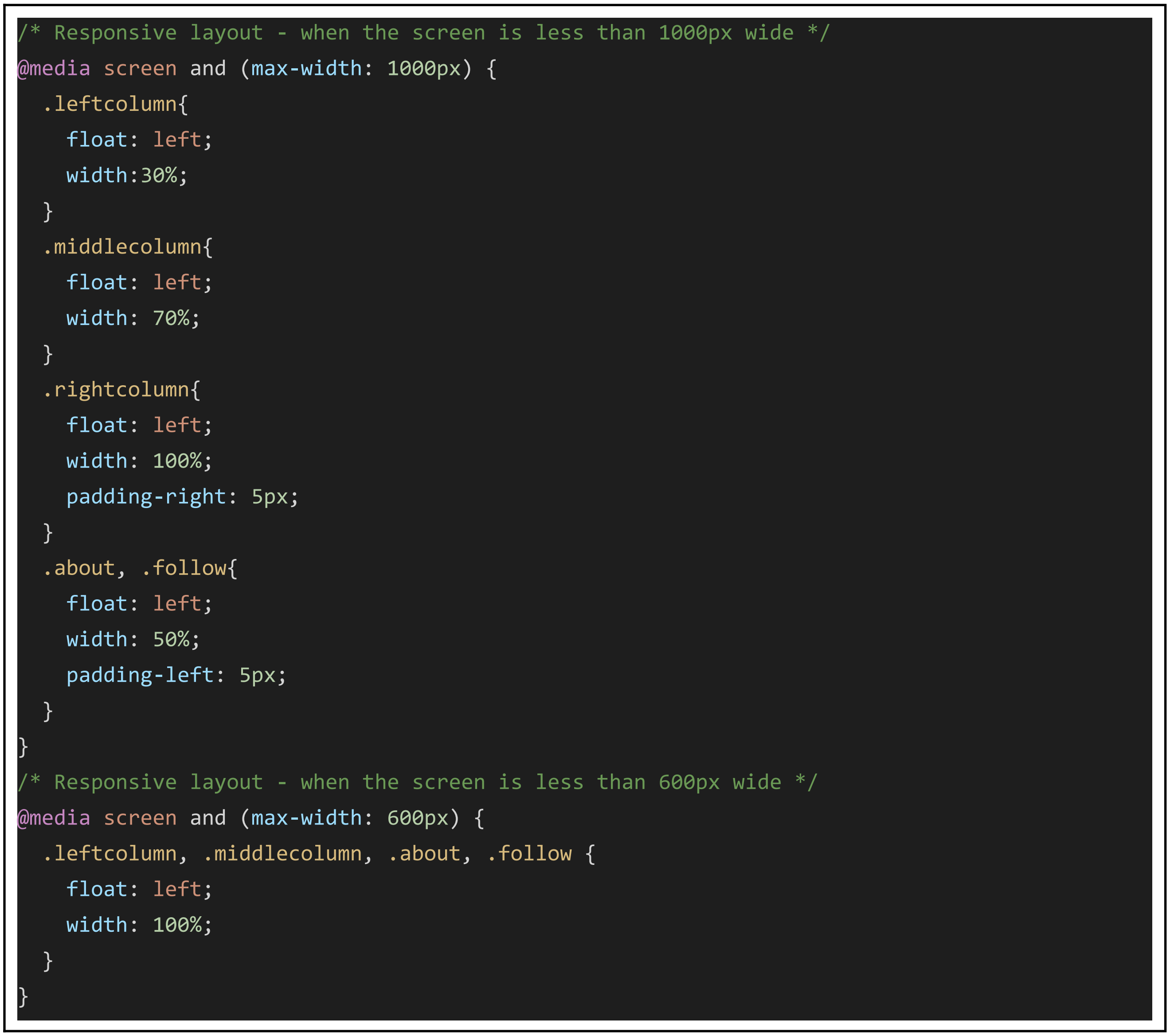
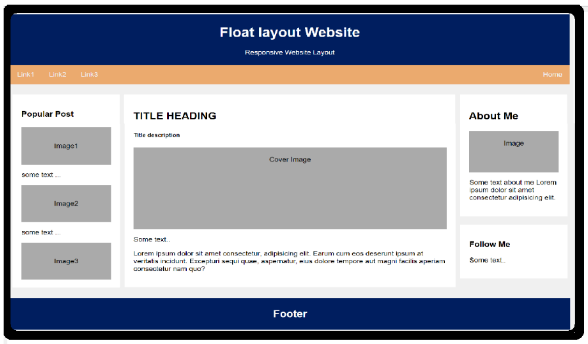
- Example



```css
/* Responsive layout - when the screen is less than 1000px wide */
@media screen and (max-width: 1000px) {
  .leftcolumn{
    float: left;
    width:30%;
  }
  .middlecolumn{
    float: left;
    width: 70%;
  }
  .rightcolumn{
    float: left;
    width: 100%;
    padding-right: 5px;
  }
  .about, .follow{
    float: left;
    width: 50%;
    padding-left: 5px;
  }
}
/* Responsive layout - when the screen is less than 600px wide */
@media screen and (max-width: 600px) {
  .leftcolumn, .middlecolumn, .about, .follow {
    float: left;
    width: 100%;
  }
}
```

Output



Some text..

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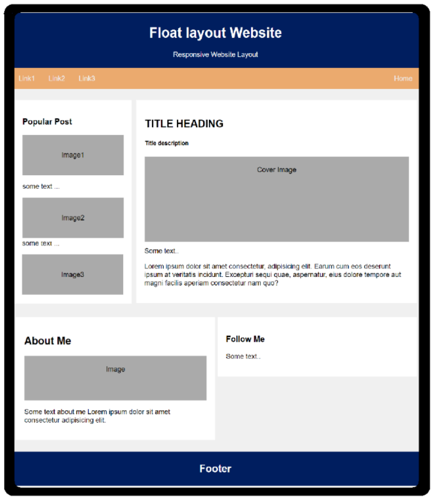
Some text about me Lorem ipsum dolor sit amet consectetur adipisicing elit.

Some text..



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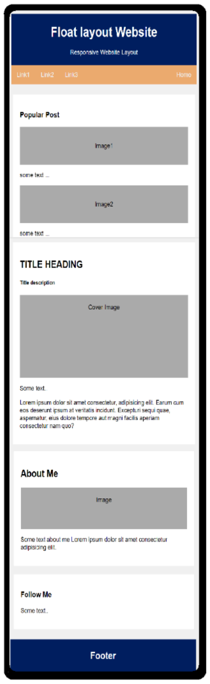
Some text about me Lorem ipsum dolor sit amet consectetur adipisicing elit.

Some text..



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Some text about me Lorem ipsum dolor sit amet consectetur adipisicing elit.

Some text..

#####Thankyou#####