Final Project Layout Guide

Sample Page Layout techniques

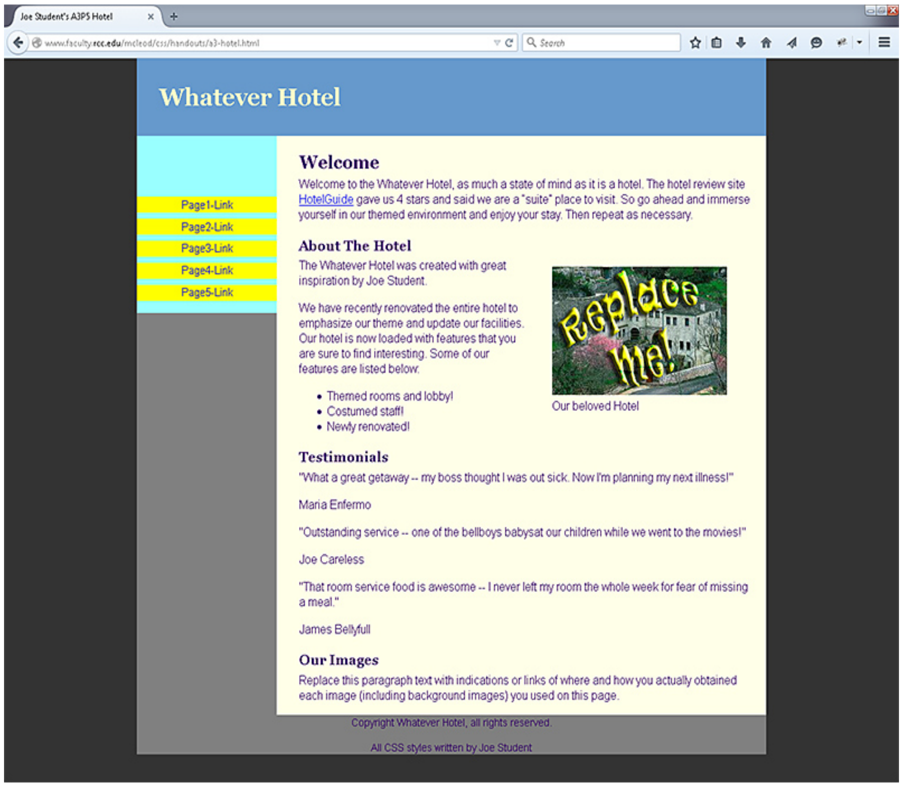
Use the following set of examples to give you some ideas on how to layout your final project Web site content. The intent is to show you a variety of techniques involving usage of float, absolute position, margin settings, CSS Grid, CSS Flexbox, and Responsive Design layout solutions. All of these designs were tested and work well in both in recent versions of Win Firefox and Chrome. If you study them and try them out on your own, you will learn a lot about CSS layout.

Although you may not use exact copies of the given code, feel free to use slight variations on any of these designs by tweaking a few of the numbers or page elements involved to achieve results that are similar to the ones shown here but that better fit your site's needs. The code is highly commented to help you learn from them.

You should use the same id and class names shown here though -- there is no requirement to change the selectors used in these examples.

1. 2-column Fixed Width Layout Using Float (Nav on left, rest of page on right)

For half credit to the final project layout requirements, you can use the layout related property settings from the assignment 3-part 5 CSS code. You may copy and paste some of that code to use directly in your final project's multi-column layout styles area. But only the layout styles should be placed there, not styles that give backgrounds or other unrelated properties.



Whatever Hotel

Page1-Link
Page2-Link
Page3-Link
Page4-Link
Page5-Link

Welcome

Welcome to the Whatever Hotel, as much a state of mind as it is a hotel. The hotel review site HotelGuide gave us 4 stars and said we are a "suite" place to visit. So go ahead and immerse yourself in our themed environment and enjoy your stay. Then repeat as necessary.

About The Hotel

The Whatever Hotel was created with great inspiration by Joe Student.

We have recently renovated the entire hotel to emphasize our theme and update our facilities. Our hotel is now loaded with features that you are sure to find interesting. Some of our features are listed below:

- Themed rooms and lobby!
- Costumed staff!
- Newly renovated!

Our beloved Hotel

Testimonials

"What a great getaway -- my boss thought I was out sick. Now I'm planning my next illness!"

Maria Enfermo

"Outstanding service -- one of the bellboys babysat our children while we went to the movies!"

Joe Careless

"That room service food is awesome -- I never left my room the whole week for fear of missing a meal."

James Bellyfull

Our Images

Replace this paragraph text with indications or links of where and how you actually obtained each image (including background images) you used on this page.

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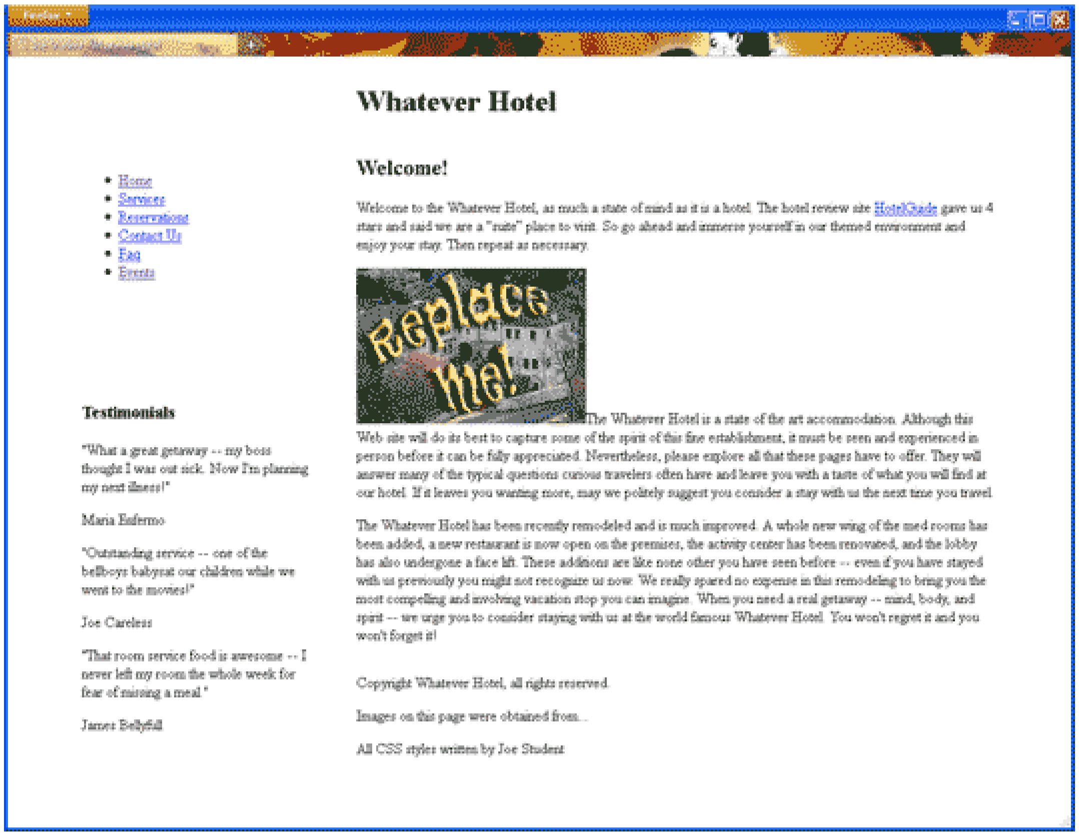
All CSS styles written by Joe Student

2. Two-Column Fixed Width Centered Layout using Absolute & Relative Positioning

In this case, the layout centers across the screen, with any extra horizontal space split between the left- and right-hand sides (along the edges of the screen).



- Home
- Services
- Reservations
- Contact Us
- Faq
- Events

Testimonials

"What a great getaway -- my boss thought I was out sick. Now I'm planning my next illness!"

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"Outstanding service -- one of the bellboys babysat our children while we went to the movies!"

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James Bellyfull

Whatever Hotel

Welcome!

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The Whatever Hotel is a state of the art accommodation. Although this Web site will do its best to capture some of the spirit of this fine establishment, it must be seen and experienced in person before it can be fully appreciated. Nevertheless, please explore all that these pages have to offer. They will answer many of the typical questions curious travelers often have and leave you with a taste of what you will find at our hotel. If it leaves you wanting more, may we politely suggest you consider a stay with us the next time you travel.

The Whatever Hotel has been recently remodeled and is much improved. A whole new wing of the med rooms has been added, a new restaurant is now open on the premises, the activity center has been renovated, and the lobby has also undergone a face lift. These additions are like none other you have seen before -- even if you have stayed with us previously you might not recognize us now. We really spared no expense in this remodeling to bring you the most compelling and involving vacation stop you can imagine. When you need a real getaway -- mind, body, and spirit -- we urge you to consider staying with us at the world famous Whatever Hotel. You won't regret it and you won't forget it!

Copyright Whatever Hotel, all rights reserved.

Images on this page were obtained from...

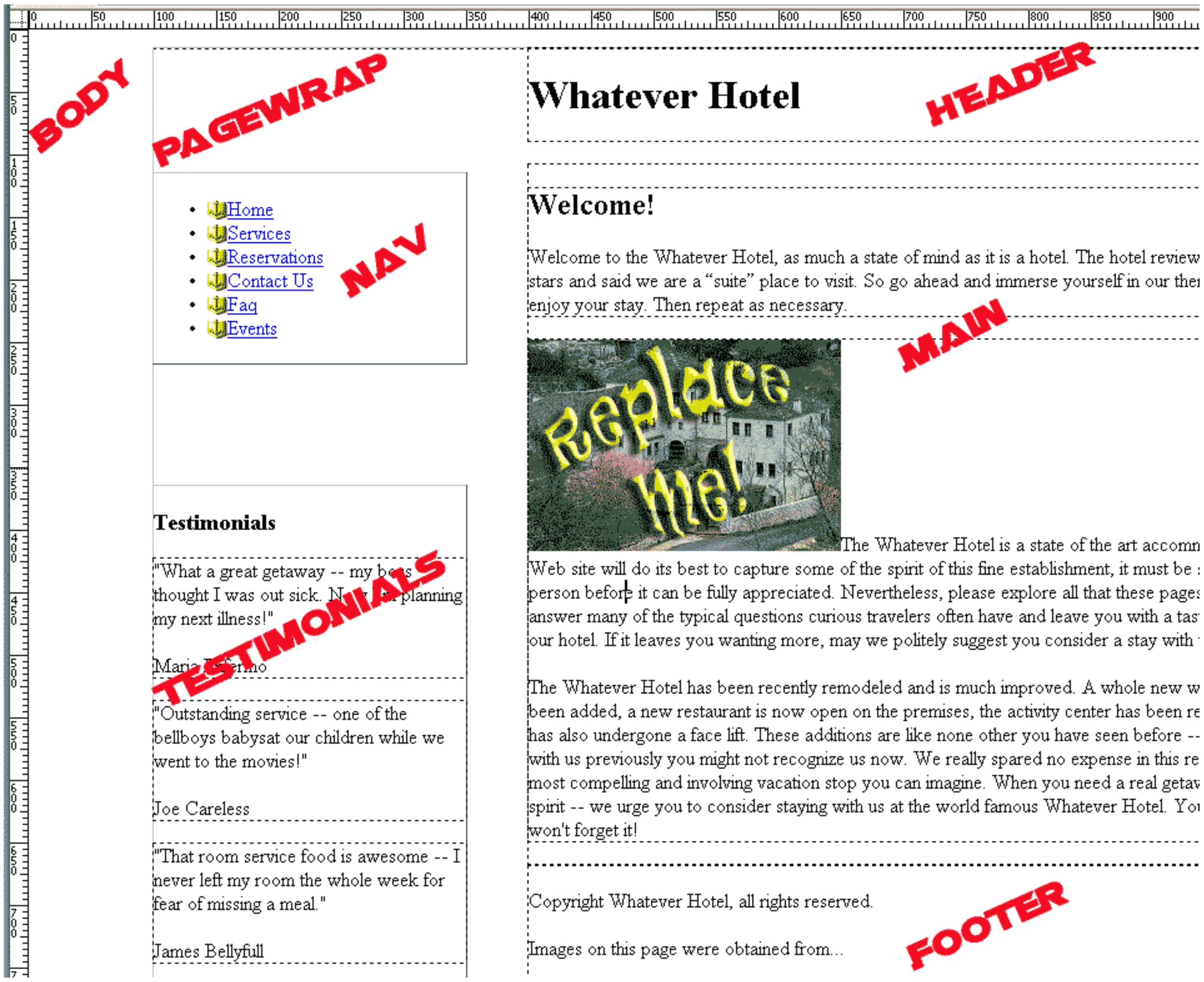
All CSS styles written by Joe Student

Here is the code that creates this layout. Try to understand each rule below and match it up with how things end up being positioned in the browser above. Read the comments to the right of each property setting in the code to know what you can change to fit your needs and what some of your other options might be.

```
/* 10. Multi-Column Layout Styles: Use of float, position, margin, and/or padding styles to create a multi-column layout.
   =============================  For help with these styles, see the online "Final Project Layout Guide" handout.
                                  For some partial credit here you can use just the layout styles from A3P5             */

#pagewrap {
   width: 1000px;          /* Change width to suit needs */
   position: relative;     /* This allows absolute pos within it  */
   margin: 0 auto;         /* This centers pagewrap within screen */
}

header, section#main, footer {
   width: 700px;           /* Change width to suit needs  */
   float: right;           /* Creating space on left 4 nav & testimonials */
}

nav, #testimonials {
   width: 250px;           /* Change width to suit needs but width < pagewrap - main   */
   position: absolute;     /* Nav & testimonials can be put anywhere within pagewrap now */
   left: 0;                /* Change location to suit needs but has to fit into empty space */
}

nav {
   top: 100px;             /* 100px down from top of pagewrap -- change nav placement as needed */
}

#testimonials {
   top: 350px;             /* 350px down from top of pagewrap -- change as needed based on height of nav  */
}
```

Below there is another way of looking at the layout -- this is how it looks in Dreamweaver's design view. This shows you the rectangles that the browser is working with when laying out these items for display on our page according to our code (for "nav", "pagewrap", "testimonials", "header", "main", and "footer".) Note that Dreamweaver shows us the actual pixel measurements of things with its rulers (see the horizontal ruler across the top and the vertical ruler down the left-hand side) -- this allows us to compare it to the pixel values in the style sheet above to verify the browser layout.

Note that if you prefer to have the "header" (which contains the h1) line up above the "nav" (align it to the left edge of pagewrap), then all you have to do is remove the "header" from the selector in the rule whose current selector is "header, section#main, footer". Then it will slide across to the left because it will no longer have its narrower width and be floated to the right.



Whatever Hotel

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Testimonials

"What a great getaway -- my bo s thought I was out sick. N planning my next illness!"

Maria ermo

"Outstanding service -- one of the bellboys babysat our children while we went to the movies!"

Joe Careless

"That room service food is awesome -- I never left my room the whole week for fear of missing a meal."

James Bellyfull

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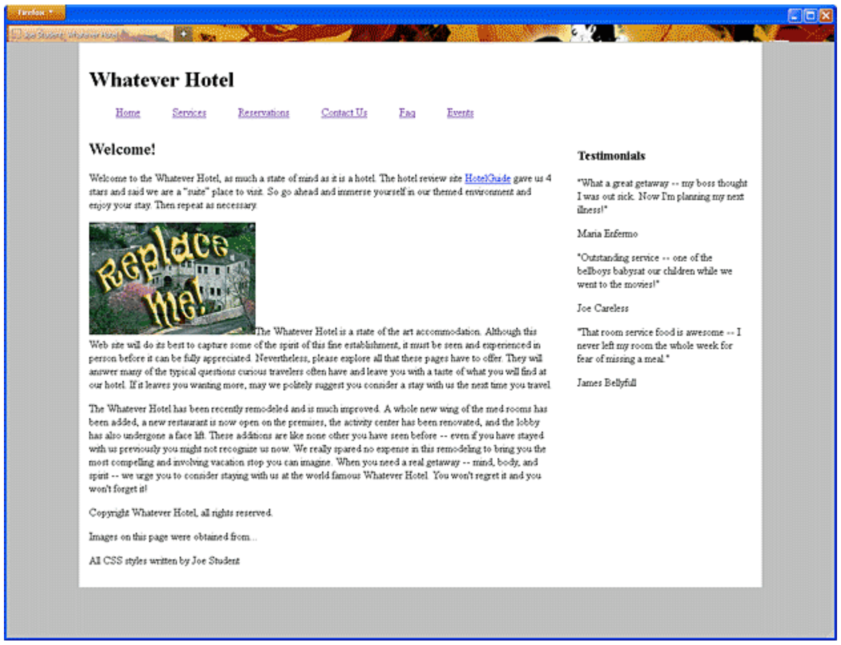
3. Two-Column Fluid Layout (using percentages) With Absolute & Relative Positioning

In this layout example, percentages are used so that the layout will shrink or expand nicely to keep its proportions and fit wider or narrower screens as needed. Two screen shots are shown below to demonstrate this flexible layout strategy. Notice the nav bar treatment to transform it to a set of horizontal links. Testimonials are positioned into empty space on the right column area. This empty space was created with padding that is applied to the surrounding (#main) container. The amount of padding given is based on a percentage so that the browser will reserve more space if more space is available, less if less is available.

The first screen shot is taken at a resolution close to 1200 wide.



Whatever Hotel

Home Services Reservations Contact Us Faq Events

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Testimonials

"What a great getaway -- my boss thought I was out sick. Now I'm planning my next illness!"

Maria Enfermo

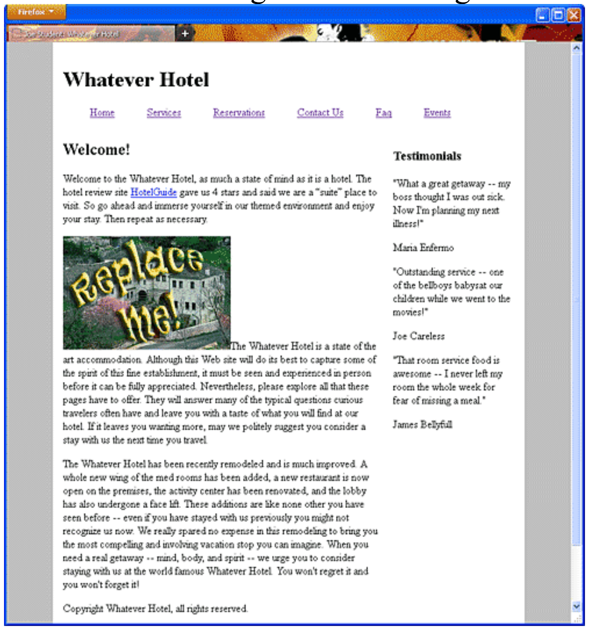
"Outstanding service -- one of the bellboys babysat our children while we went to the movies!"

Joe Careless

"That room service food is awesome -- I never left my room the whole week for fear of missing a meal."

James Bellyfull

The second screen shot is taken at a narrower resolution closer to 800 wide. Notice how the layout shrinks to fit its surroundings without losing its overall proportions.



Whatever Hotel

Home Services Reservations Contact Us Faq Events

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Testimonials

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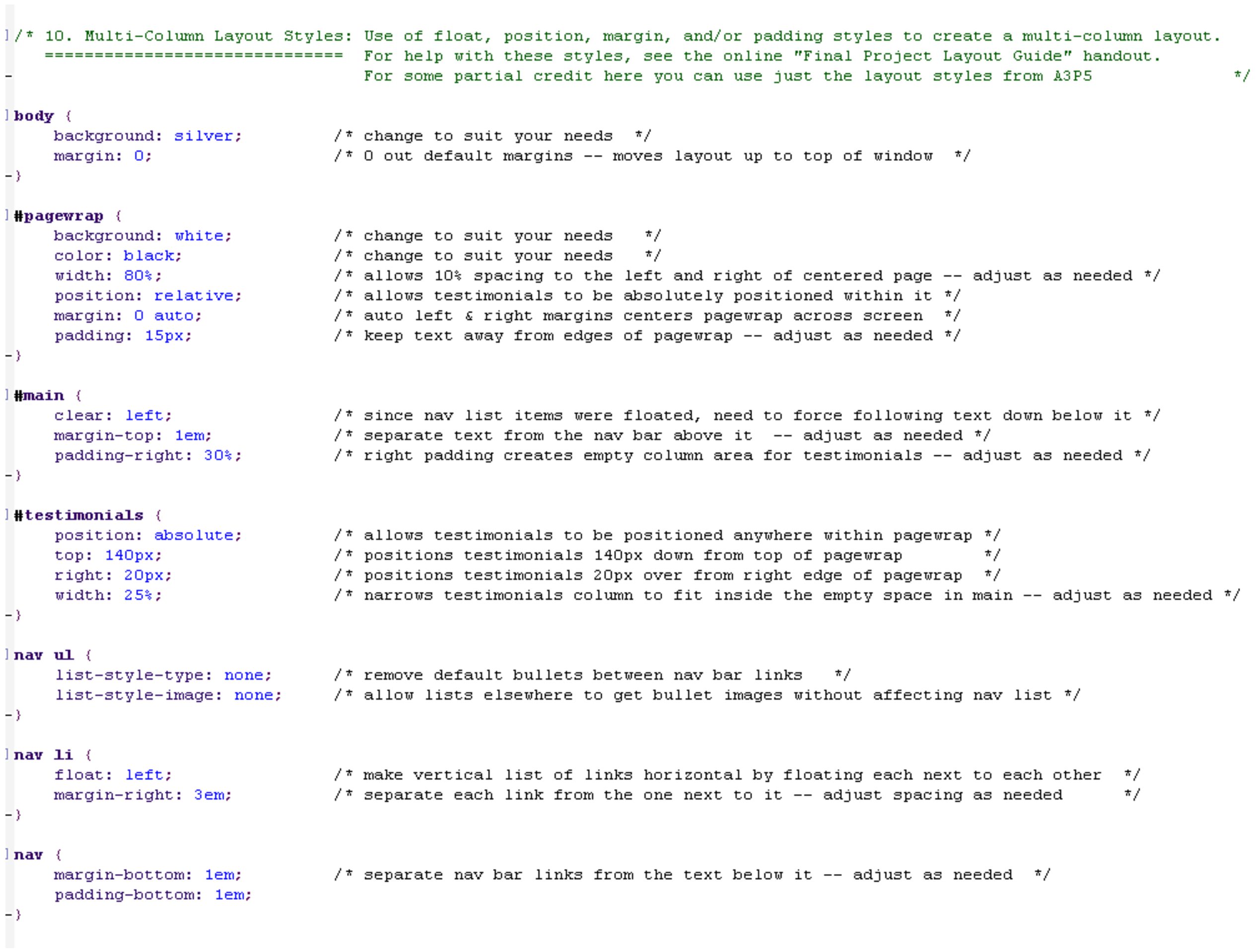
Joe Careless

"That room service food is awesome -- I never left my room the whole week for fear of missing a meal."

James Bellyfull

Below is the code that creates this fluid design:



```
/* 10. Multi-Column Layout Styles: Use of float, position, margin, and/or padding styles to create a multi-column layout.
   ==============================  For help with these styles, see the online "Final Project Layout Guide" handout.
                                   For some partial credit here you can use just the layout styles from A3P5              */

body {
    background: silver;          /* change to suit your needs  */
    margin: 0;                   /* 0 out default margins -- moves layout up to top of window  */
}

#pagewrap {
    background: white;           /* change to suit your needs   */
    color: black;                /* change to suit your needs   */
    width: 80%;                  /* allows 10% spacing to the left and right of centered page -- adjust as needed */
    position: relative;          /* allows testimonials to be absolutely positioned within it */
    margin: 0 auto;              /* auto left & right margins centers pagewrap across screen  */
    padding: 15px;               /* keep text away from edges of pagewrap -- adjust as needed */
}

#main {
    clear: left;                 /* since nav list items were floated, need to force following text down below it */
    margin-top: 1em;             /* separate text from the nav bar above it  -- adjust as needed */
    padding-right: 30%;          /* right padding creates empty column area for testimonials -- adjust as needed */
}

#testimonials {
    position: absolute;          /* allows testimonials to be positioned anywhere within pagewrap */
    top: 140px;                  /* positions testimonials 140px down from top of pagewrap        */
    right: 20px;                 /* positions testimonials 20px over from right edge of pagewrap  */
    width: 25%;                  /* narrows testimonials column to fit inside the empty space in main -- adjust as needed */
}

nav ul {
    list-style-type: none;       /* remove default bullets between nav bar links   */
    list-style-image: none;      /* allow lists elsewhere to get bullet images without affecting nav list */
}

nav li {
    float: left;                 /* make vertical list of links horizontal by floating each next to each other  */
    margin-right: 3em;           /* separate each link from the one next to it -- adjust spacing as needed      */
}

nav {
    margin-bottom: 1em;          /* separate nav bar links from the text below it -- adjust as needed  */
    padding-bottom: 1em;
}
```

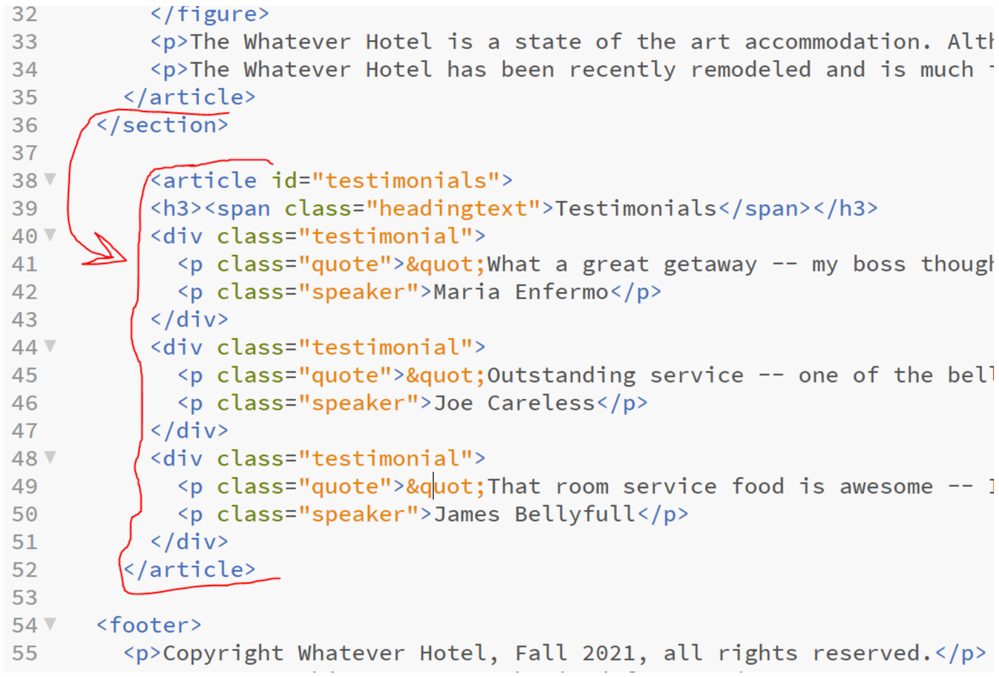
Next we will explore a 3-column layout using the CSS Grid system.

4. Three-Column Layout using Grid

There are 2 main layout systems that have been added to CSS to help with building layouts. They are called "Grid" and "Flexbox", and each has some things they do best. Here we explore using Grid.

If we make a minor tweak to each page's HTML, then we can use the CSS "Grid" system to create a very nice 3-column layout with the "nav" on the left, a wider "main" content in the middle, and the "testimonials" on the right. The header and footer can take up all 3 columns across the top and bottom, respectively, and the columns (and page content within them) will automatically adjust to the page width and height to use all available space as best it can.

The HTML change needed is to move the "testimonials" article out of the "main" section and place it just below the </section> tag for that "main" section, as shown below on the given home page. Do the same for all other pages too:

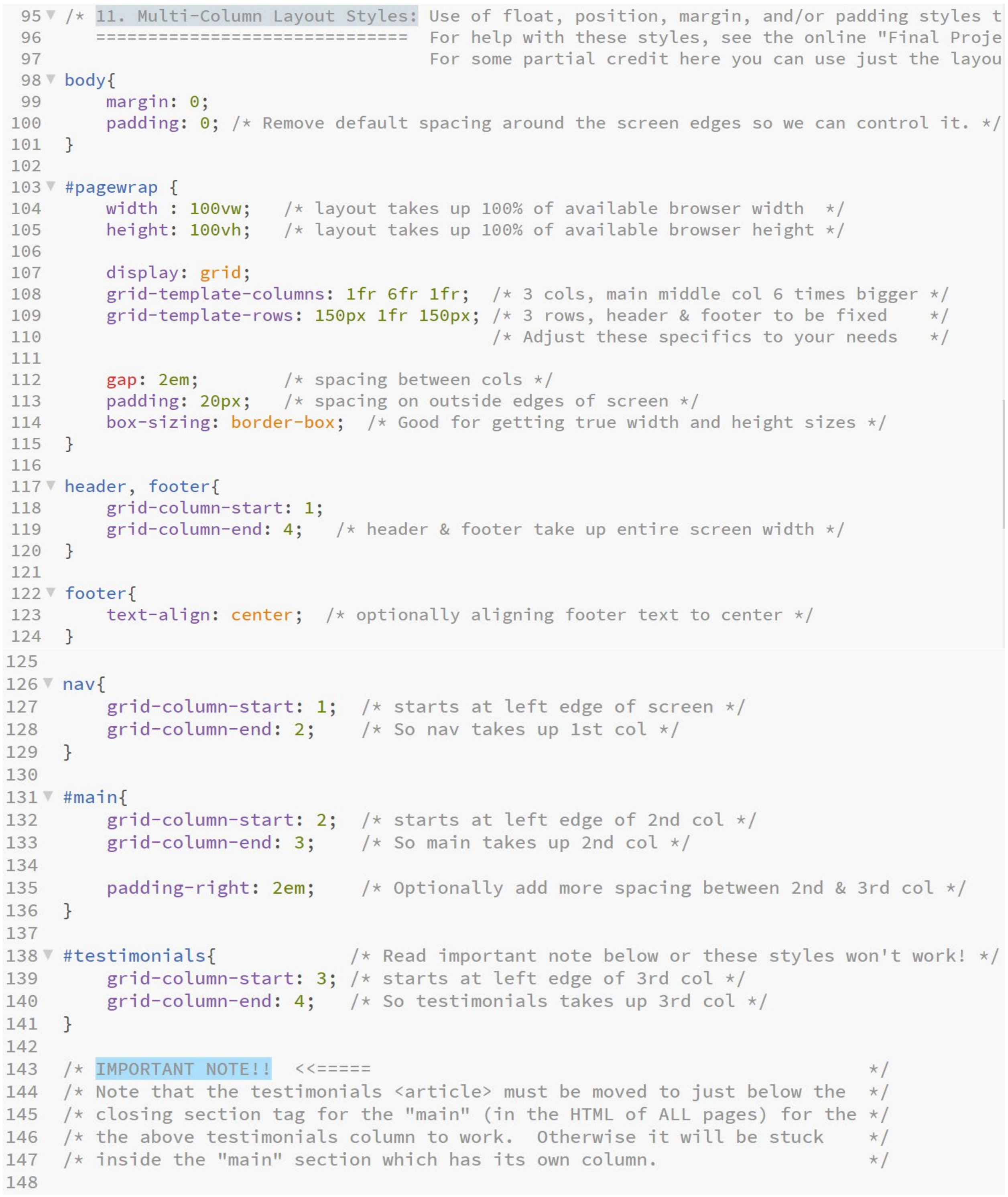


```
      </figure>
      <p>The Whatever Hotel is a state of the art accommodation. Alth
      <p>The Whatever Hotel has been recently remodeled and is much
    </article>
  </section>

      <article id="testimonials">
      <h3><span class="headingtext">Testimonials</span></h3>
      <div class="testimonial">
        <p class="quote">&quot;What a great getaway -- my boss though
        <p class="speaker">Maria Enfermo</p>
      </div>
      <div class="testimonial">
        <p class="quote">&quot;Outstanding service -- one of the bell
        <p class="speaker">Joe Careless</p>
      </div>
      <div class="testimonial">
        <p class="quote">&quot;That room service food is awesome -- I
        <p class="speaker">James Bellyfull</p>
      </div>
    </article>

  <footer>
    <p>Copyright Whatever Hotel, Fall 2021, all rights reserved.</p>
```

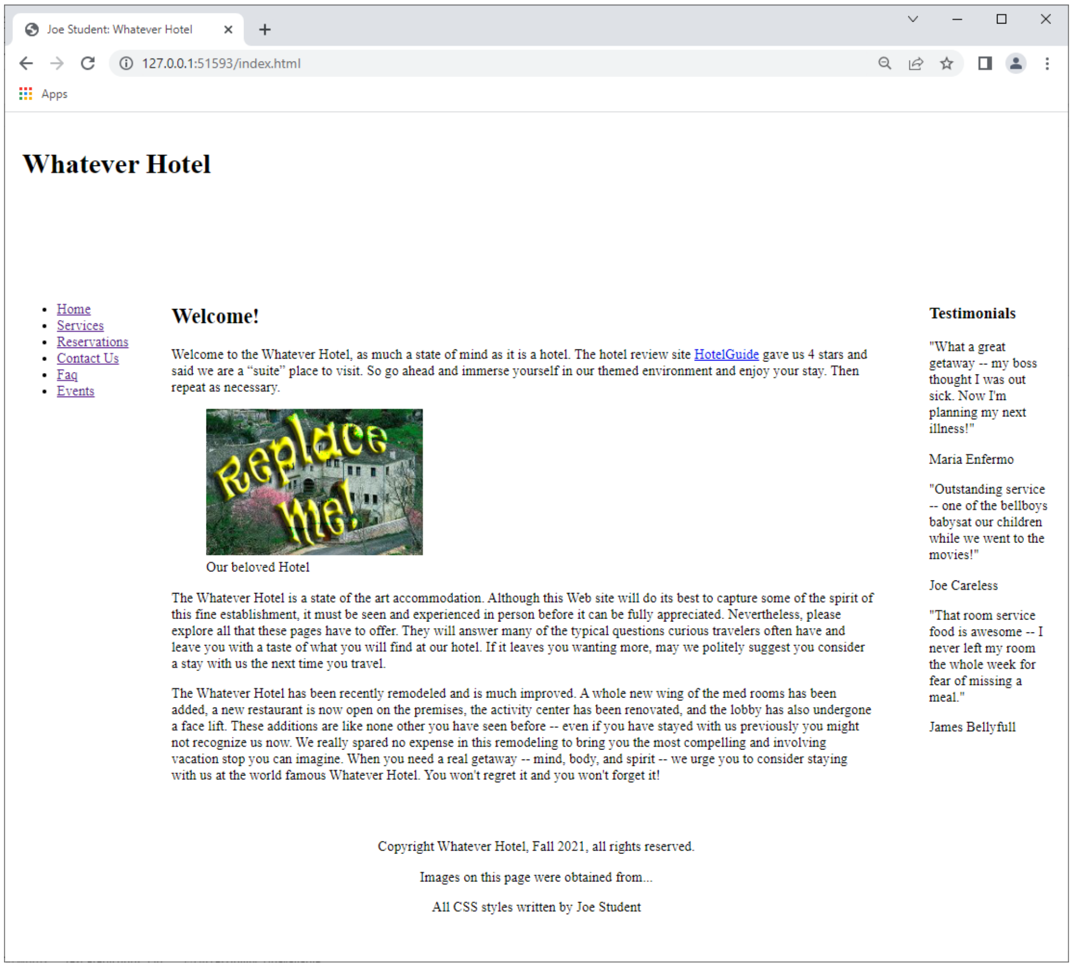
Once that HTML fix has been made to all pages in our given site, we are ready to turn our attention to the CSS. Grid is a layout system added to the basic CSS tools to help make layout easier and more intuitive. Below are the CSS rules to create a 3-column layout for our (modified) final project site:



```
 95 /* 11. Multi-Column Layout Styles: Use of float, position, margin, and/or padding styles t
 96    ==============================  For help with these styles, see the online "Final Proje
 97                                    For some partial credit here you can use just the layou
 98 body{
 99     margin: 0;
100     padding: 0; /* Remove default spacing around the screen edges so we can control it. */
101 }
102
103 #pagewrap {
104     width : 100vw;   /* layout takes up 100% of available browser width  */
105     height: 100vh;   /* layout takes up 100% of available browser height */
106
107     display: grid;
108     grid-template-columns: 1fr 6fr 1fr;  /* 3 cols, main middle col 6 times bigger */
109     grid-template-rows: 150px 1fr 150px; /* 3 rows, header & footer to be fixed    */
110                                          /* Adjust these specifics to your needs   */
111
112     gap: 2em;        /* spacing between cols */
113     padding: 20px;   /* spacing on outside edges of screen */
114     box-sizing: border-box;  /* Good for getting true width and height sizes */
115 }
116
117 header, footer{
118     grid-column-start: 1;
119     grid-column-end: 4;   /* header & footer take up entire screen width */
120 }
121
122 footer{
123     text-align: center;  /* optionally aligning footer text to center */
124 }
125
126 nav{
127     grid-column-start: 1;  /* starts at left edge of screen */
128     grid-column-end: 2;    /* So nav takes up 1st col */
129 }
130
131 #main{
132     grid-column-start: 2;  /* starts at left edge of 2nd col */
133     grid-column-end: 3;    /* So main takes up 2nd col */
134
135     padding-right: 2em;    /* Optionally add more spacing between 2nd & 3rd col */
136 }
137
138 #testimonials{             /* Read important note below or these styles won't work! */
139     grid-column-start: 3; /* starts at left edge of 3rd col */
140     grid-column-end: 4;   /* So testimonials takes up 3rd col */
141 }
142
143 /* IMPORTANT NOTE!!  <<=====                                        */
144 /* Note that the testimonials <article> must be moved to just below the  */
145 /* closing section tag for the "main" (in the HTML of ALL pages) for the */
146 /* the above testimonials column to work.  Otherwise it will be stuck    */
147 /* inside the "main" section which has its own column.                  */
148
```

Note that the "fr" units in the grid-template-columns and grid-template-rows on lines 108 and 109 above refer to "fraction" and make that column width (or row height) flexible but allow you to maintain proportions between the other rows and columns. For example, a grid-template-columns value of "1fr 2fr 1fr" would be the same as saying you wanted column 1 and column 3 to be 25% of the available page width and column to take up 50% (twice the other columns' fraction.

Here is what the grid-based layout produced by the above HTML & CSS code looks like for the home page in the browser. The columns get wider at larger widths, this screen shot was taken at a pretty narrow width.



Whatever Hotel

- Home
- Services
- Reservations
- Contact Us
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- Events

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Replace Me!

Our beloved Hotel

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Testimonials

"What a great getaway -- my boss thought I was out sick. Now I'm planning my next illness!"

Maria Enfermo

"Outstanding service -- one of the bellboys babysat our children while we went to the movies!"

Joe Careless

"That room service food is awesome -- I never left my room the whole week for fear of missing a meal."

James Bellyfull

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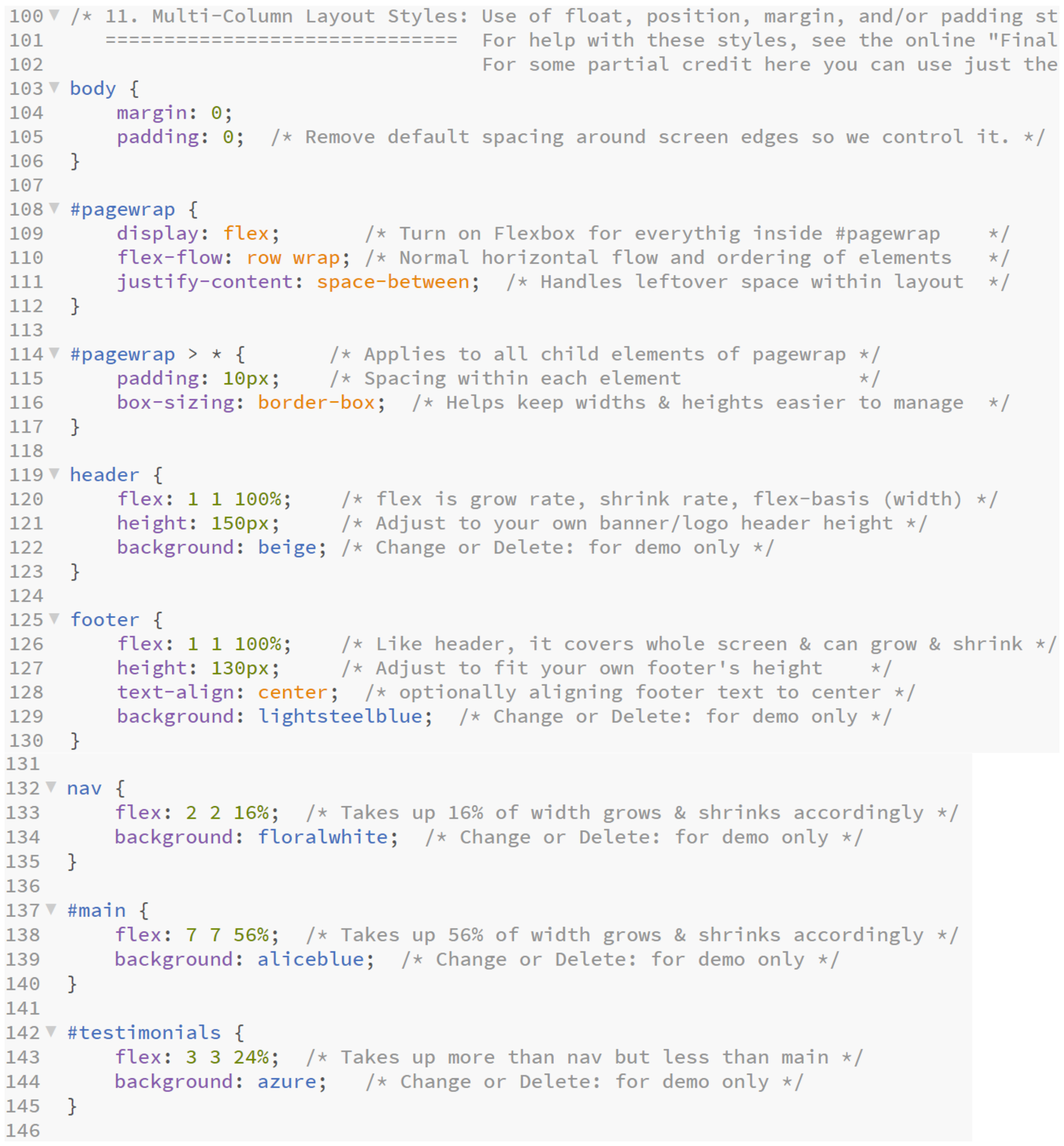
All CSS styles written by Joe Student

5. Three-Column Layout Using Flexbox (with Responsive Design)

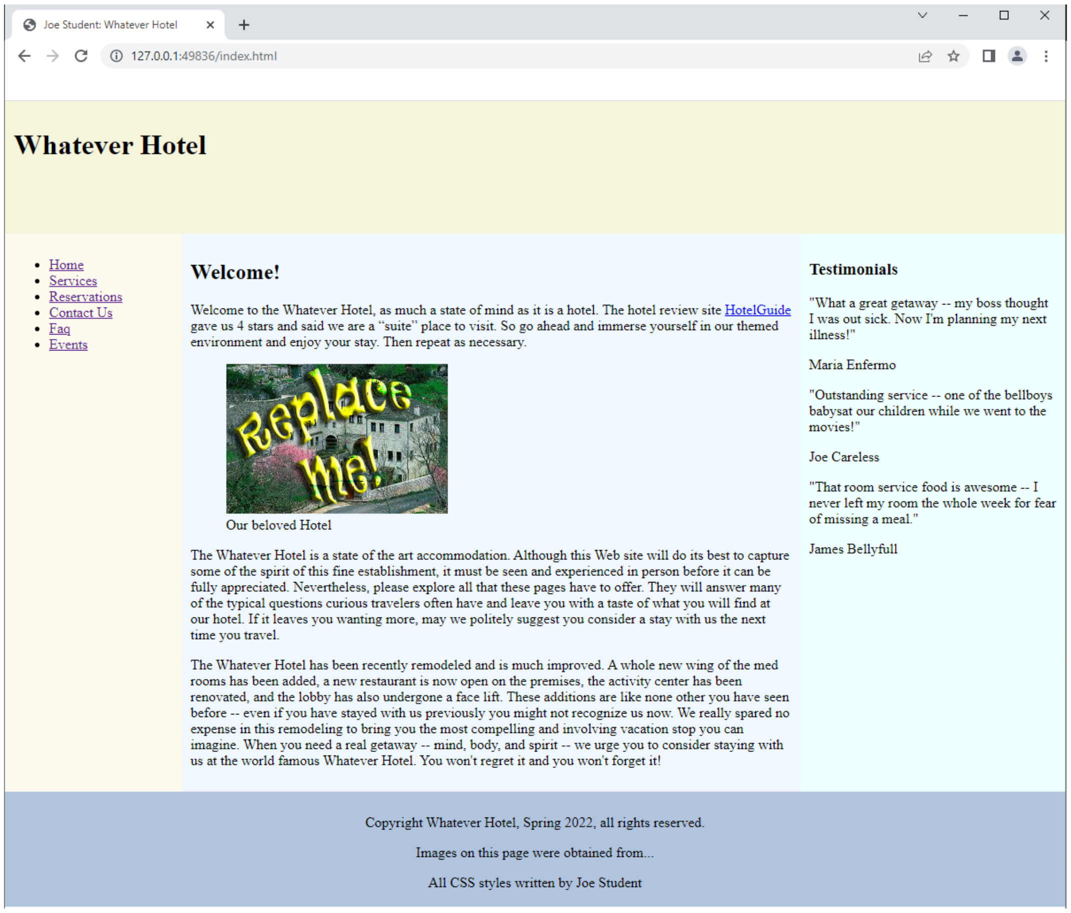
With the same HTML adjustments for the testimonials and mentioned above for the Grid design, here is the CSS code for the Flexbox solution. The comments to the right of the code are there for your better understanding of the layout details:



```css
/* 11. Multi-Column Layout Styles: Use of float, position, margin, and/or padding st
   ==============================  For help with these styles, see the online "Final
                                   For some partial credit here you can use just the
body {
    margin: 0;
    padding: 0;  /* Remove default spacing around screen edges so we control it. */
}

#pagewrap {
    display: flex;       /* Turn on Flexbox for everythig inside #pagewrap    */
    flex-flow: row wrap; /* Normal horizontal flow and ordering of elements   */
    justify-content: space-between;   /* Handles leftover space within layout  */
}

#pagewrap > * {       /* Applies to all child elements of pagewrap */
    padding: 10px;    /* Spacing within each element               */
    box-sizing: border-box;  /* Helps keep widths & heights easier to manage  */
}

header {
    flex: 1 1 100%;    /* flex is grow rate, shrink rate, flex-basis (width) */
    height: 150px;     /* Adjust to your own banner/logo header height */
    background: beige; /* Change or Delete: for demo only */
}

footer {
    flex: 1 1 100%;    /* Like header, it covers whole screen & can grow & shrink */
    height: 130px;     /* Adjust to fit your own footer's height    */
    text-align: center;  /* optionally aligning footer text to center */
    background: lightsteelblue;   /* Change or Delete: for demo only */
}

nav {
    flex: 2 2 16%;  /* Takes up 16% of width grows & shrinks accordingly */
    background: floralwhite;  /* Change or Delete: for demo only */
}

#main {
    flex: 7 7 56%;  /* Takes up 56% of width grows & shrinks accordingly */
    background: aliceblue;  /* Change or Delete: for demo only */
}

#testimonials {
    flex: 3 3 24%;  /* Takes up more than nav but less than main */
    background: azure;   /* Change or Delete: for demo only */
}
```

The results of these CSS styles on the given final project site (after moving the testimonials article out of the main section) is shown below:

This is what the flexbox layout solution looks like for our given home page at a browser width of about 1200px wide.



Joe Student: Whatever Hotel

127.0.0.1:49836/index.html

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"Outstanding service -- one of the bellboys babysat our children while we went to the movies!"

Joe Careless

"That room service food is awesome -- I never left my room the whole week for fear of missing a meal."

James Bellyfull

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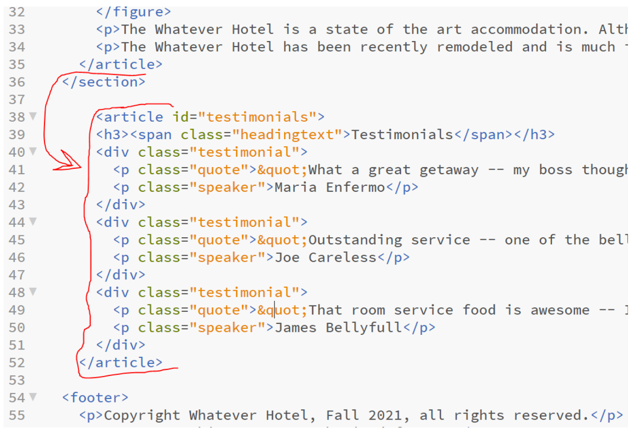
Images on this page were obtained from...

All CSS styles written by Joe Student

Don't forget that this CSS solution requires that the "testimonials" article is moved out of the "main" section and place it just below the </section> tag for that "main" section (and just above the start of the footer), as shown below on the given home page. Do the same for all other pages too:



```
    </figure>
    <p>The Whatever Hotel is a state of the art accommodation. Alth
    <p>The Whatever Hotel has been recently remodeled and is much
  </article>
</section>

    <article id="testimonials">
    <h3><span class="headingtext">Testimonials</span></h3>
    <div class="testimonial">
      <p class="quote">&quot;What a great getaway -- my boss though
      <p class="speaker">Maria Enfermo</p>
    </div>
    <div class="testimonial">
      <p class="quote">&quot;Outstanding service -- one of the bell
      <p class="speaker">Joe Careless</p>
    </div>
    <div class="testimonial">
      <p class="quote">&quot;That room service food is awesome -- I
      <p class="speaker">James Bellyfull</p>
    </div>
  </article>

<footer>
  <p>Copyright Whatever Hotel, Fall 2021, all rights reserved.</p>
```

Next we discuss responsive design solutions to this same layout. You can get some extra credit from including this into your own final project flexbox solution.

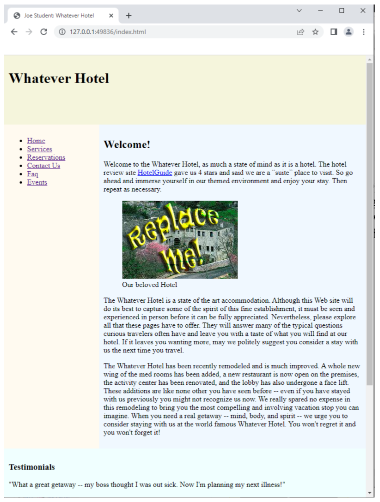
Responsive Design (extra credit):

Now what happens if you try to take a 3-column layout like this and shrink down the available screen width? It should shrink the columns and look ok for a while, but there are usually points at which the layout design starts to break – where it becomes hard to read, and items are wrapping at undesirable places and columns get too skinny to hold their content properly. Since we know that many users view web sites on tablets and phones and other devices with small screen sizes, these days it makes a lot of sense to design your site with these smaller screens in mind so that your site will look good (and work well) at typical desktop, tablet, and phone screen sizes. This approach is called responsive design and we can accomplish this using the above flexbox-based design by adding just a little more code.

First we'll assume the desktops are anything greater than 800 pixels wide, tablets are anything between 600 and 800 pixels, and phones are 600 pixels or less. In reality it doesn't really matter what kind of device it is, we just know that these are typical points at which designs typically adjust for various kinds of devices that often times are built around these sizes, so this approach can work for us. With the previous flexbox CSS code still intact, let's now consider adding the following code:

```
147
148  @media all and (max-width:800px){    /* Tablet width layout  */
149
150      nav {
151          flex: 1 1 25%;    /* Nav and Main share all the width */
152      }
153      #main {
154          flex: 3 3 70%;    /* width: 70%; */
155      }
156      #testimonials {
157          flex: 1 1 100%;   /* Testimonials goes down on its own row  */
158      }
159  }
160
```

So here our code begins with line 148 which states that this code will only apply when the screen width is 800px or less (tablet). The previous CSS code will apply for all bigger screen widths. In this smaller case, we don't have room for all 3 columns anymore, so we are going to switch the layout to only try to fit the nav and main together on 2 columns and let the testimonials go down below on its own. You can see the results with the screen shot below. As we shrink the browser window down below 800 pixels, the new CSS media query takes over and switches to the 2-column alternative design with the testimonials on its own below (and the footer is below that as expected):



Whatever Hotel

- Home
- Services
- Reservations
- Contact Us
- Faq
- Events

Welcome!

Welcome to the Whatever Hotel, as much a state of mind as it is a hotel. The hotel review site HotelGuide gave us 4 stars and said we are a "suite" place to visit. So go ahead and immerse yourself in our themed environment and enjoy your stay. Then repeat as necessary.

Our beloved Hotel

The Whatever Hotel is a state of the art accommodation. Although this Web site will do its best to capture some of the spirit of this fine establishment, it must be seen and experienced in person before it can be fully appreciated. Nevertheless, please explore all that these pages have to offer. They will answer many of the typical questions curious travelers often have and leave you with a taste of what you will find at our hotel. If it leaves you wanting more, may we politely suggest you consider a stay with us the next time you travel.

The Whatever Hotel has been recently remodeled and is much improved. A whole new wing of the med rooms has been added, a new restaurant is now open on the premises, the activity center has been renovated, and the lobby has also undergone a face lift. These additions are like none other you have seen before -- even if you have stayed with us previously you might not recognize us now. We really spared no expense in this remodeling to bring you the most compelling and involving vacation stop you can imagine. When you need a real getaway -- mind, body, and spirit -- we urge you to consider staying with us at the world famous Whatever Hotel. You won't regret it and you won't forget it!

Testimonials

"What a great getaway -- my boss thought I was out sick. Now I'm planning my next illness!"

That's better, but what if it was even narrower? You might guess that if we just continue shrinking the browser width eventually these 2 columns will get crowded, and things again won't look very nice. So, we build a last alternative for screens 600 pixels or less using the following CSS code:

Here is the code for the mobile (smallest) screens of 600px or less:

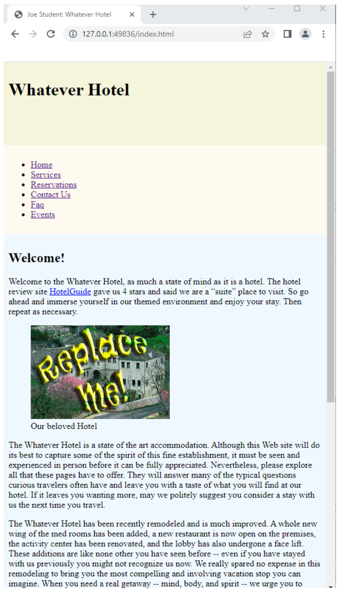
```css

@media all and (max-width:600px){   /* Small screen mobile layout   */

    nav, #main, #testimonials {
        flex: 1 1 100%;      /* All 3 areas lay out vertically now */
    }
}

```

In this case we forget about multiple columns entirely and just stack each separate layout component on top of each other so each can use the full width of the screen. Not ideal but workable. Here is what it would look like at just under 600 pixels. A lot of scrolling is needed if you want to see the whole page, but everything is there and readable and usable, unlike the way it would look if we were still trying to cram everything into 3 super-narrow columns!



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So, if you put all of this code together into one longer style sheet, you get the best of all worlds. The code works well on larger screens as originally intended but will also adjust to smaller devices using the media queries shown separately.

As a side note, there are so many users browsing sites with mobile devices these days that web designers must consider designing with smaller screens as their primary focus and then writing the media queries using "min-width" (instead of the "max-width" ones shown above) to make adjustments for those who happen to be using larger desktop screen sizes.

If you use a flexbox-based design for the final project, you can get full credit without using the responsive media queries, but you can also earn extra credit points if you do include the media queries shown above (or modified ones that work better for your own site) as long as they work when graded.