Text and Fonts

CSS3

Text and the Web

Most of the content on the web is text, so it is important that you become familiar with effective ways to manipulate its appearance to achieve legible and aesthetic expectations.

When working on a website it is important to keep accessibility in-mind. Text needs to have a high contrast with a background to ensure it will be easy to read, even by those with colour-blindness or sight impairment.

The web should be a place where all can browse and consume content. Text that is too small or blends in too much is counter to this effort.

Common Text Properties

There are numerous types of CSS rules we can write to control how text will be displayed.

Keep in mind that you can apply different rules to different elements. For instance, you might use a different font entirely for your headings (H1-H6) than your regular content text (P).

Let’s take a quick look at some of the properties we can use to control text in our web pages…

- color
  The colour of the text in this element.
- font-size
  Size of the text.
- text-decoration
  Controls presence of an underline, its style, and colour.
- font-style
  Can be normal, italic, or oblique (slanted.)
- font-weight
  The thickness of the font: lighter, normal, bold, or bolder.
- letter-spacing
  Adjusts the space between (kerning of) letters/characters in this element.
- word-spacing
  Adjusts the spacing in between (space-separated) words.
- line-height
  A measure of the vertical space that the text will take up. Think single-spaced versus double-spaced.
- text-align
  Similar to alignment used in MS Word and Google Docs: left, right center, and justify.
- text-transform
  Provides capitalization control: none, capitalize, lowercase, uppercase, full-width, and full-size-kana.

Other Text Properties

A number of other text properties that you may come across include…

- text-indent
  The first word of the text in the element will be indented by the specified amount.
- white-space
  Determines how text in the element will “wrap” once it reaches the horizontal limit of the element.
- hyphens
  Used to decide if words that cannot fit in the element will be broken via hyphen, or overflow.
- text-align-last
  Offers control over the alignment of the last line of text in the element.
- text-orientation
  Adjusts the vertical / horizontal orientation of the text.
- text-shadow
  Provides options for positioning, sizing, spreading, and colouring a shadow behind text in the element.

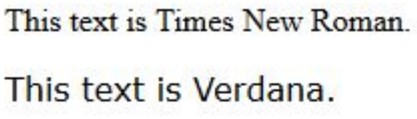
Font Family

Alright, those are fine and dandy, but what about fonts? If Times New Roman is getting old, there are a variety of options available for us to implement different fonts into our web pages.

The essential property for the purpose of selecting a font for the target element is: font-family.

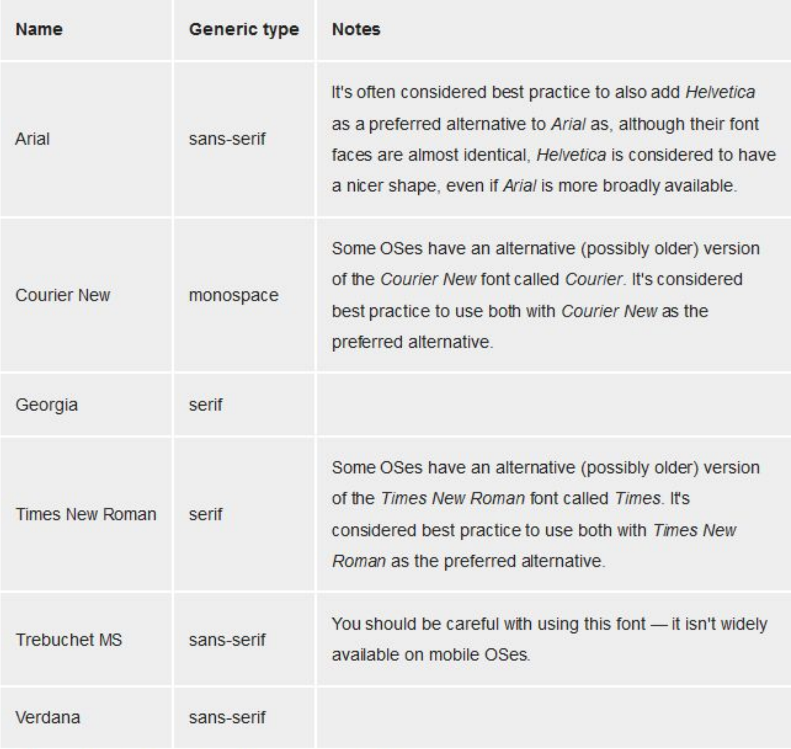
One of the most simple uses, is to specify a single web safe font (pictured in the table to the right.)

```
p {
   font-family: Verdana;
}
```



This text is Times New Roman.

This text is Verdana.



Name	Generic type	Notes
Arial	sans-serif	It's often considered best practice to also add *Helvetica* as a preferred alternative to *Arial* as, although their font faces are almost identical, *Helvetica* is considered to have a nicer shape, even if *Arial* is more broadly available.
Courier New	monospace	Some OSes have an alternative (possibly older) version of the *Courier New* font called *Courier*. It's considered best practice to use both with *Courier New* as the preferred alternative.
Georgia	serif	
Times New Roman	serif	Some OSes have an alternative (possibly older) version of the *Times New Roman* font called *Times*. It's considered best practice to use both with *Times New Roman* as the preferred alternative.
Trebuchet MS	sans-serif	You should be careful with using this font — it isn't widely available on mobile OSes.
Verdana	sans-serif	

Table courtesy of: https://developer.mozilla.org/en-US/docs/Learn/CSS/Styling_text/Fundamentals#Web_safe_fonts

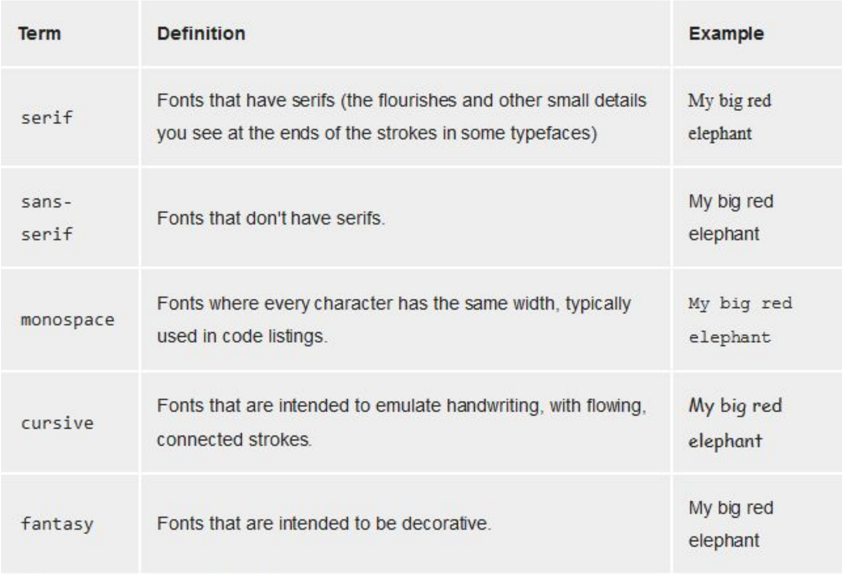
Default Fonts

We can be less specific with our fonts, if we need to be, via use of default fonts.

These are vague descriptors that let the web browser know to find a font installed on the device that fits the category. Each of these terms are a category of font or typography…

- Serif
- Sans-Serif
- Monospace
- Cursive
- Fantasy

  A font with decorative purpose, potentially including various symbols. It still offers reasonable representations of the specified characters.



Term	Definition	Example
serif	Fonts that have serifs (the flourishes and other small details you see at the ends of the strokes in some typefaces)	My big red elephant
sans-serif	Fonts that don't have serifs.	My big red elephant
monospace	Fonts where every character has the same width, typically used in code listings.	My big red elephant
cursive	Fonts that are intended to emulate handwriting, with flowing, connected strokes.	My big red elephant
fantasy	Fonts that are intended to be decorative.	My big red elephant

Table courtesy of: https://developer.mozilla.org/en-US/docs/Learn/CSS/Styling_text/Fundamentals#Default_fonts

Font Compatibility

We aren't always so lucky as to have a guarantee with any font that it will be installed and available on a user's device. There is potential for different sets of fonts being available from device-to-device and operating system to operating system.

- It is likely that many fonts that come pre-installed on a Windows computer will be different than the default fonts on a Macintosh computer.
- An Android phone may only share a select number of fonts with either of those devices, and same with an iPhone.
- What about an iPhone from three generations ago?
- A Blackberry?
- A Samsung television with a browser?
- PlayStation?

There are all sorts of devices today that are equipped for web browsing, it can be easy to forget how extensive the variety really is.

We, as web developers, may not be able to ensure an incredible experience on each and every device on the market, but it is our duty to invest effort and attention in satisfying as many as possible within reason.

There are steps we can take to have reasonable fallbacks and enhance compatibility on a wider range of devices.

The Font Stack

To help us control which fonts may display, especially in cases wherein our first choice might not be available to an end user, CSS affords us font stacks as a feature.

Look at the following line of CSS:

```
font-family: Helvetica, Arial, sans-serif;
```

When we specify multiple fonts, separated by commas, we're defining a font stack for the target element.

In the example, we're telling the browser:

1. Check if the current device has Helvetica installed; if so, use it!
2. If Helvetica is not installed, check if the current device has Arial installed—if so, use it!
3. If Arial is not installed, check if the current device has any sans-serif fonts installed—if so, use one!

As you can see, this offers enhanced control over how most any end user will experience the text on your website.

Adding Custom Fonts

If these web safe and default fonts feel a bit restrictive, you’re not alone. There is a syntax available to have CSS let the browser know there is a font file (or files) to download and use in the web page: @font-face.

At the beginning of your CSS you can lay out the custom font information like so…

```
@font-face {
   font-family: “Ubuntu”;
   src: url(“fonts/ubuntu.woff”)   format(“woff”),
        url(“fonts/ubuntu.woff2”) format(“woff2”);
}
```

The “font-family” inside of the @font-face block lets you specify the name of the font (for use later in the file.)

The “src” expects URLs expressing the location of the actual font file. It is best to also include the format so the web browser knows what to expect.

Note that @font-face must not be inside of any declaration blocks, and @font-face rules must be specified at the top of the file before you declare any regular styles—this is so that when you call upon the font by name later in the file, it can understand which font you mean.

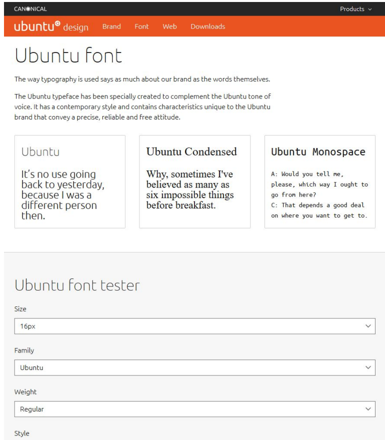
Find and Download a Custom Font

For this example, we'll be downloading the official Ubuntu font. Visit the website and download the Ubuntu Font Family.

Notice that inside the ZIP is a LICENCE.txt file and README.txt. Any time you are downloading assets it is of the utmost importance you check both of these to ensure you are using the resource within your legal right. Not all terms of use allow inclusion in a website; many have set restrictions as to which sort of projects (if any) the resource can be used in, or they may even require compensation.

There are a variety of websites that specialize in providing fonts, if you'd like to experiment with others, just ensure you check the licence for each before using them in projects…

- Font Squirrel
- DaFont



Ubuntu font

The way typography is used says as much about our brand as the words themselves.

The Ubuntu typeface has been specially created to complement the Ubuntu tone of voice. It has a contemporary style and contains characteristics unique to the Ubuntu brand that convey a precise, reliable and free attitude.

Ubuntu

It's no use going back to yesterday, because I was a different person then.

Ubuntu Condensed

Why, sometimes I've believed as many as six impossible things before breakfast.

Ubuntu Monospace

```
A: Would you tell me,
please, which way I ought to
go from here?
C: That depends a good deal
on where you want to get to.
```

Ubuntu font tester

Size: 16px

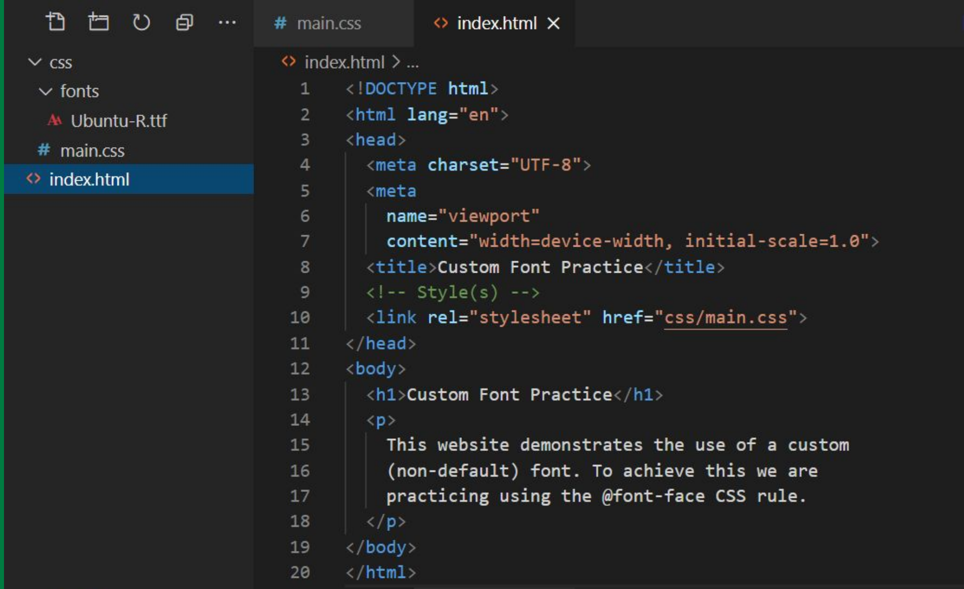
Family: Ubuntu

Weight: Regular

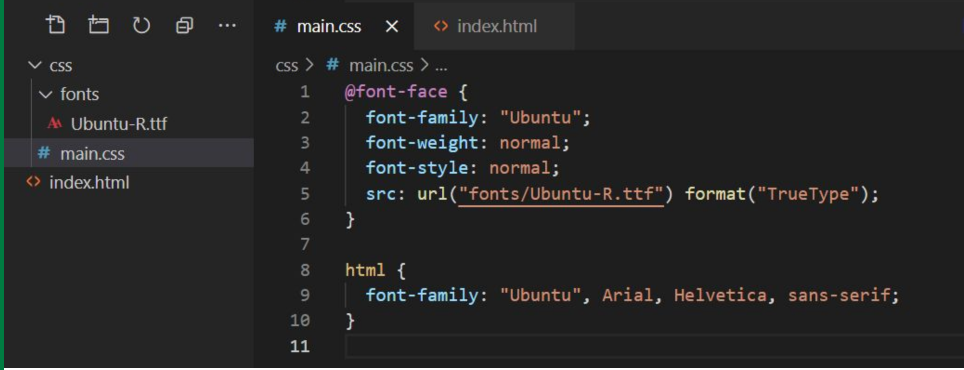
Style

Adding a Font to a Project

Create a basic website and move the “regular” or “R” version of the font into your project. Try out the code to the right.



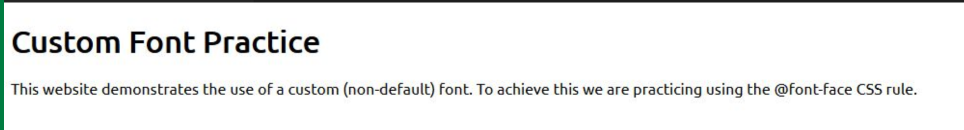
```html
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta
    name="viewport"
    content="width=device-width, initial-scale=1.0">
  <title>Custom Font Practice</title>
  <!-- Style(s) -->
  <link rel="stylesheet" href="css/main.css">
</head>
<body>
  <h1>Custom Font Practice</h1>
  <p>
    This website demonstrates the use of a custom
    (non-default) font. To achieve this we are
    practicing using the @font-face CSS rule.
  </p>
</body>
</html>
```



```css
@font-face {
  font-family: "Ubuntu";
  font-weight: normal;
  font-style: normal;
  src: url("fonts/Ubuntu-R.ttf") format("TrueType");
}

html {
  font-family: "Ubuntu", Arial, Helvetica, sans-serif;
}

```

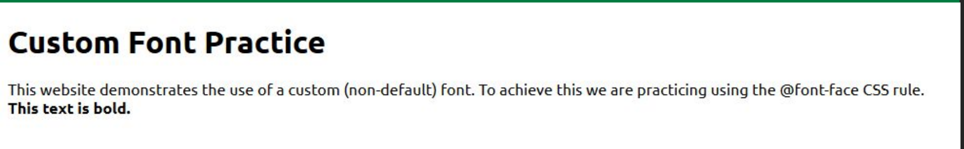


Custom Font Practice

This website demonstrates the use of a custom (non-default) font. To achieve this we are practicing using the @font-face CSS rule.

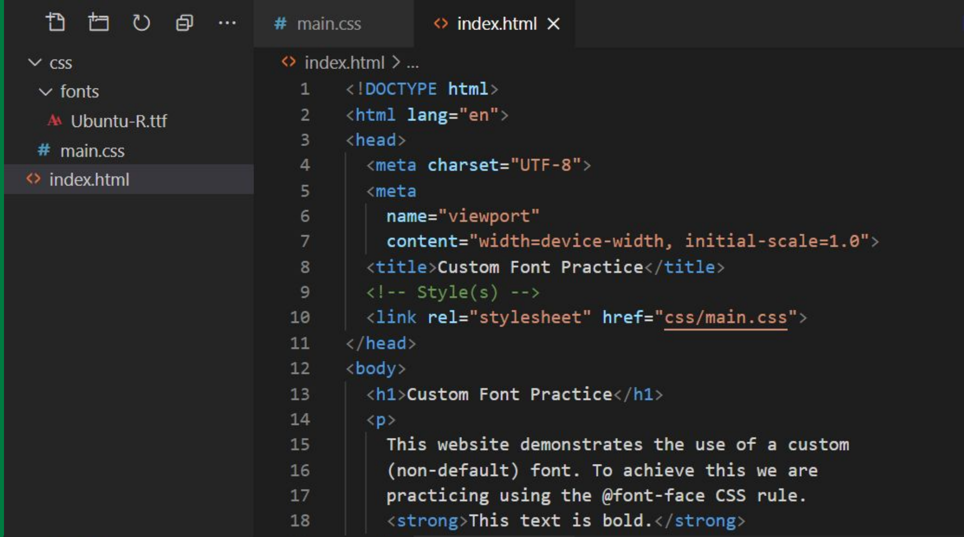
Different Weights and Styles for a Font

To add italics, light, normal, bold, and other styles of font simple add additional @font-face rules with the same font-family name. Ensure you specify the appropriate other details for each font file you source.

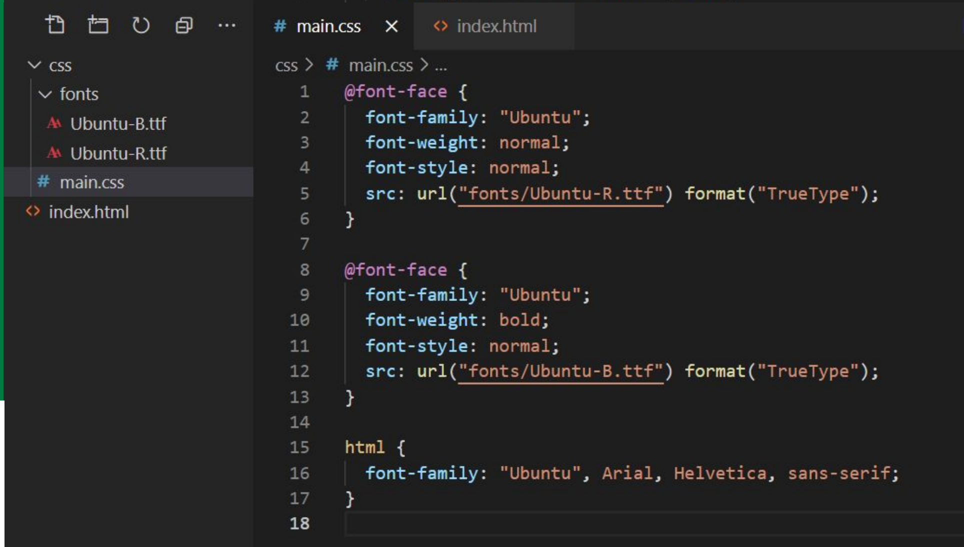


Custom Font Practice

This website demonstrates the use of a custom (non-default) font. To achieve this we are practicing using the @font-face CSS rule. **This text is bold.**



```html
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta
    name="viewport"
    content="width=device-width, initial-scale=1.0">
  <title>Custom Font Practice</title>
  <!-- Style(s) -->
  <link rel="stylesheet" href="css/main.css">
</head>
<body>
  <h1>Custom Font Practice</h1>
  <p>
    This website demonstrates the use of a custom
    (non-default) font. To achieve this we are
    practicing using the @font-face CSS rule.
    <strong>This text is bold.</strong>
```



```css
@font-face {
  font-family: "Ubuntu";
  font-weight: normal;
  font-style: normal;
  src: url("fonts/Ubuntu-R.ttf") format("TrueType");
}

@font-face {
  font-family: "Ubuntu";
  font-weight: bold;
  font-style: normal;
  src: url("fonts/Ubuntu-B.ttf") format("TrueType");
}

html {
  font-family: "Ubuntu", Arial, Helvetica, sans-serif;
}
```

Web Font Directories and Delivery Services

Instead of setting up this code and these files on your own, there is the option to use web font delivery services.

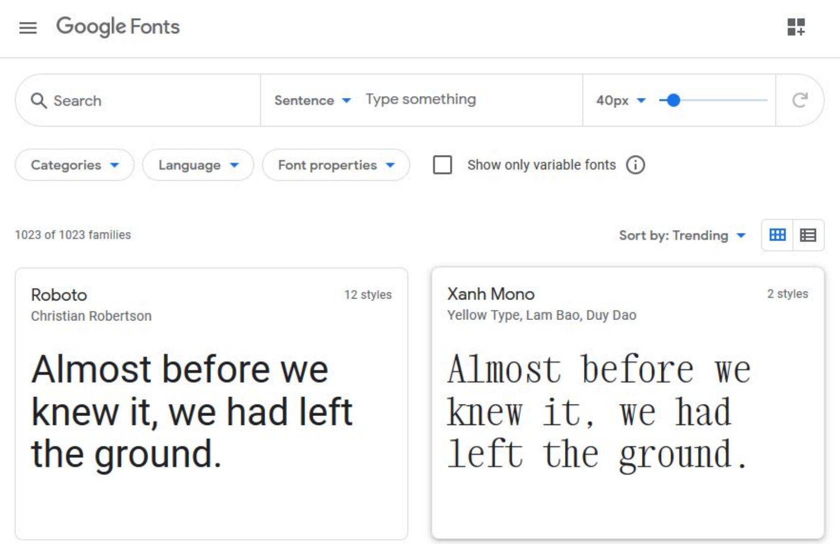
Two of the most widely used include:

- Google Fonts (Free)
- Adobe Fonts Typekit Web Fonts (Paid)

Using Google Fonts

Browse the Google Fonts library, and select a font.

Once you’ve found one, click “+ Select this style” and you’re able to view the <link> or @import options for including the font in your project.



Almost before we knew it, we had left the ground.

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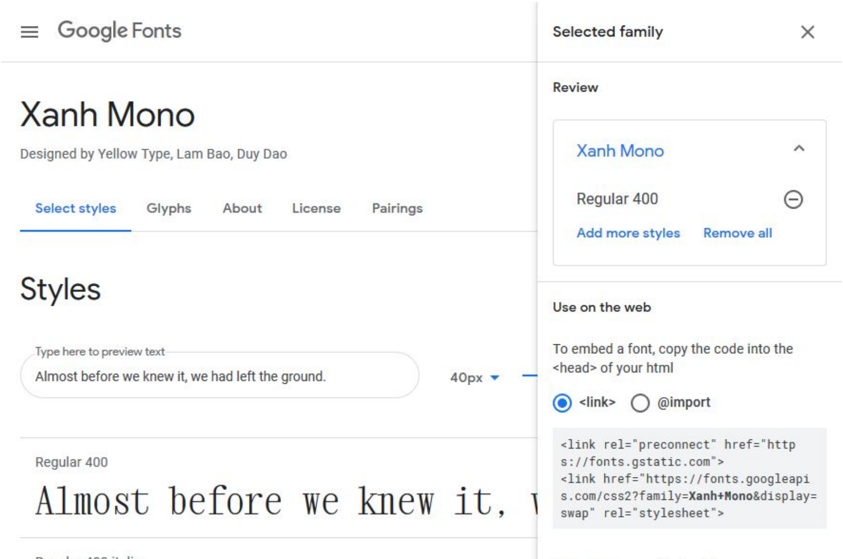


Almost before we knew it, we had left the ground.

Almost before we knew it,

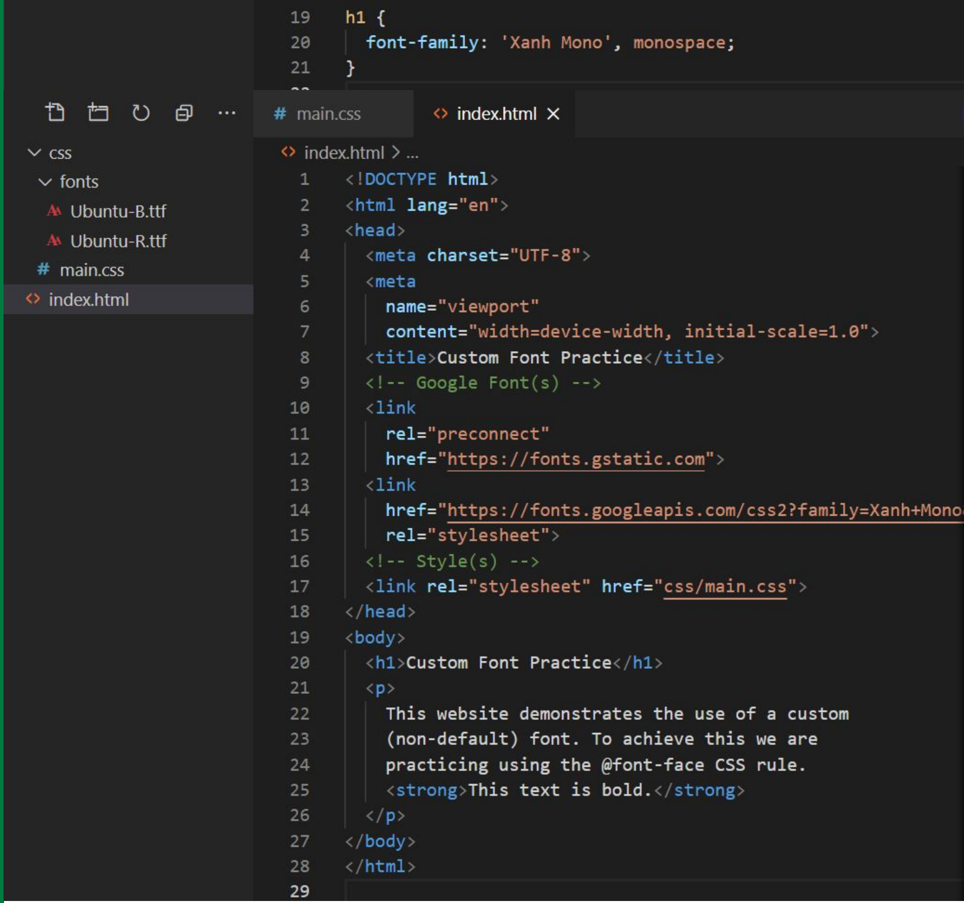
To embed a font, copy the code into the <head> of your html

● <link> ○ @import

```
<link rel="preconnect" href="http
s://fonts.gstatic.com">
<link href="https://fonts.googleapi
s.com/css2?family=Xanh+Mono&display=
swap" rel="stylesheet">
```

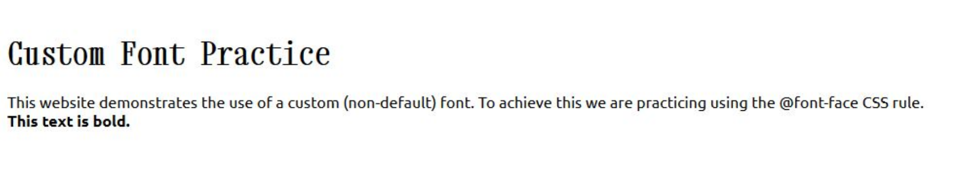
Adding a Google Font to your Project

Add the <link> elements before your stylesheet, and you'll have access to that font in your stylesheet.



```css
h1 {
  font-family: 'Xanh Mono', monospace;
}
```

```html
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta
    name="viewport"
    content="width=device-width, initial-scale=1.0">
  <title>Custom Font Practice</title>
  <!-- Google Font(s) -->
  <link
    rel="preconnect"
    href="https://fonts.gstatic.com">
  <link
    href="https://fonts.googleapis.com/css2?family=Xanh+Mono
    rel="stylesheet">
  <!-- Style(s) -->
  <link rel="stylesheet" href="css/main.css">
</head>
<body>
  <h1>Custom Font Practice</h1>
  <p>
    This website demonstrates the use of a custom
    (non-default) font. To achieve this we are
    practicing using the @font-face CSS rule.
    <strong>This text is bold.</strong>
  </p>
</body>
</html>
```



Custom Font Practice

This website demonstrates the use of a custom (non-default) font. To achieve this we are practicing using the @font-face CSS rule. **This text is bold.**

Recommended Reading

More on fonts and text styling can be found in the following:

- Meyer, E. A; Weyl, E. (October 2017). CSS: The Definitive Guide, 4th Edition. O'Reilly Media, Inc.
    - Chapter 5. Fonts
    - Chapter 6. Text Properties