

I'm learning: HTML

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Getting Setup

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- Go to dojo.soy/trinket and click "Sign Up For Your Free Account" if you do not already have an account. You will need an email address to sign up.
- 2 Enter your email address and choose a password, or ask somebody to do this for you.
- Creating an account allows you to save your work and access it from any computer. It also allows you to make a copy of a project somebody else has shared with you so you can make your own changes to it!
- Go to dojo.soy/html-b-start. You will see a box containing an example website project. On the right hand side is the website, and on the left hand side is the code that makes the website.
 - o If you are not signed in, you will need to enter your email address and password to be able to Remix the project.
- Click the "Remix" button at the top right of the project (if it is not green, you have to sign in and then click it again). This creates a copy of the project for you to work with. It should say "remixed" after you click it



Next to the "Sign Out" button at the very top right corner of the page you should see your username and a drop-down menu (the tiny triangle tells you there is a drop-down). Click on it to show the menu and then select "My Trinkets".



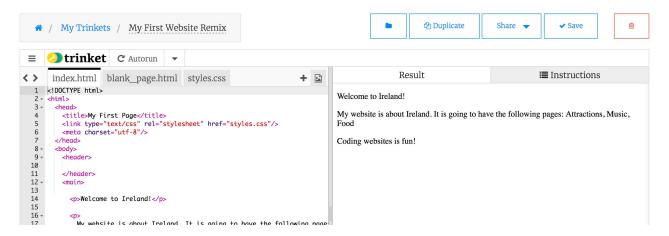
- o In Trinket (this website), projects are called "Trinkets"
- The project you just remixed will be shown together with some example projects for other programming languages. It will be called "My First Website Remix". Click on it to begin editing!



Getting Setup

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The main part of the page is broken into two panels. On the left is where you write your code. The different code files appear as tabs. On the right is your website! The grey bar in between them is a slider that you can drag to adjust the width of the website and code panels.



- To the top left above the code panel is the name of your project. If you want to change the name, click on it and type in a new name, then press Enter. The website in these Sushi Cards is about Ireland, but yours can be about anything you like.
- Click the triangle icon next to the button that says "Autorun" and select "Click To Run".



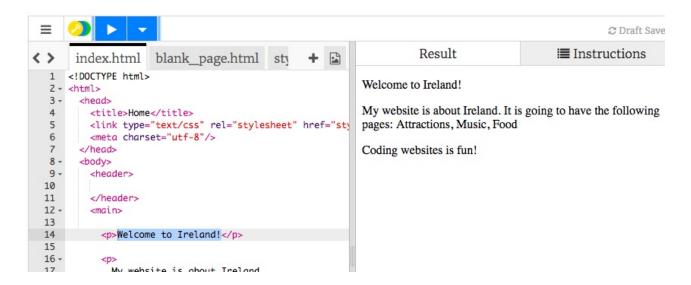
11 You are ready to start coding!



Creating a web page

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- In the left-hand panel, the code panel, click on the tab that says "index.html".
- Find the line that says "Welcome to Ireland!" and change it to your own home country or town, being careful not to delete the text at the start of the line and at the end of the line. Then click on the button that says "Click To Run". This is the Run button. You will see your web page updated in the right-hand panel.



Now on the same line, change the and to <h1> and </h1> , and click Run. What happens?

<h1>Welcome to Ireland!</h1>

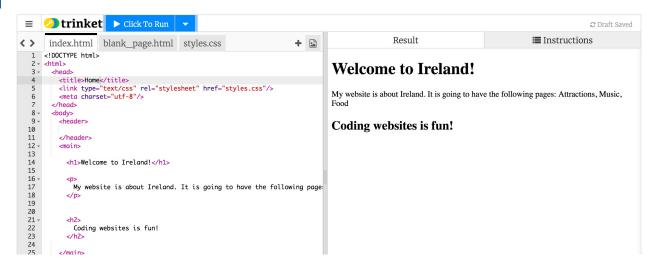
- When you want to put text on a page, you need to put it in between two tags that tell your browser how to display your text. For example, the tag tells the browser it is a paragraph of text. The <h1> tag tells it that the text is a heading.
 - A browser is the program you use to look at websites, for example Chrome or Firefox.
 - The .html in the filename tells the browser that the file is a web page, so it looks for the tags telling it what to display.
 HTML is the code that makes a web page.
- Why do you need two tags? You have an **opening** and a **closing** tag to tell the browser where things start and end. So for a paragraph, the opening tag says "here comes some text that I want you to display as a paragraph". The closing tag tells the browser where the paragraph ends. Everything in between the <body> and </body> tags is your web page.
 - Notice how the **closing** tag always has a forward slash, 7.
 - The tags define different pieces of a page, for example paragraphs and headings, or the body; these pieces are all called
 elements. Think of them as building blocks.
- Try changing the p to h2 in the last paragraph, the one that says "Coding websites is fun!" Remember to change it in both the **opening** and the **closing** tag.



Creating a web page

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Find the <title> and </title> tags and change the text in between them to "Home". Then click the run button.



- The title is that text that you normally see on the tab or at the top of your browser window. Trinket won't display it but when you download your code later you will see it.
- Find the code for the paragraph that says "My website is about Ireland" and change it so that it looks like this:

```
<em>My website</em> is about <strong>Ireland</strong>.

It is going to have the following pages: Attractions, Music, Food
```

- $\hbox{$\circ$ Can you work out what the $$ and $$ tags do? Note: "em" is short for "emphasis". } \\$
- g Click the blue Save button at the top right to save your changes.
- So a web page is just made up of text, with tags to control it!
 - You have p tags for paragraphs and h tags for headings. Try adding some more headings, changing the numbers in your tags to see the different sizes you get! They can go from <h1> all the way up to <h6> . Add some more text in between new tags too if you want!



Adding a stylesheet

I'm learning: HTML

- In your Trinket, look at the tabs in the code panel and go to the file **styles.css** by clicking on the tab with that name. If you can't see **styles.css**, use the < and > icons to scroll through the tabs until you find it.
 - o CSS is the code that describes what a website looks like.
- The file contains the following text:

```
body {
    background-color: white;
}
```

- The curly braces { } and the text in between them is a set of CSS rules. The word body means that the rules are for all the https://www.nbody elements on your website. We call the bit outside the curly braces a selector. So in this case, it is the selector for the body elements.
- Change the colour to LightskyBlue, and click Run (Remember, this is the button that says "Click To Run"). Your website should now have a blue background!



- What's going on? If you look at the top of the index.html file, you will see the following line: type="text/css"

 rel="stylesheet" href="styles.css"/> This tells the browser to look for a special file named styles.css. This file is a stylesheet.
 You can recognise a stylesheet file by the .css in its name. The stylesheet contains rules for what each element on your page should look like.
 - Each rule is made up of a property with a : symbol (colon) after it and then a value for the property, followed by a ;
 symbol (semi-colon).
- Lets add rules to change the text. Add two new lines inside the curly braces like this:

```
body {
   background-color: LightSkyBlue;
   font-family: "Helvetica", sans-serif;
   color: purple;
}
```

- Click Run to see how it changed the web page.
 - o The color property is always for text.



Adding a stylesheet

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You can also add rules to make the headings look different to the paragraphs! For this, you use the hi selector. Add the following code to the styles.css file, below the closing curly brace.

```
h1 {
    color: orange;
    font-family: "Times New Roman", serif;
}
```

g Click Run. Your heading should be orange now, with the paragraph purple as before.



- Notice how the letters also look different as well as being a different colour? This is because you changed the **font family**. You can see some more fonts at dojo.soy/web-font-families
- 11 Try adding a set of rules for the <h2> headings, using the h2 selector.
- Why not experiment with different colour combinations for the text and background? There are lots of colours available to use. For a full list of them, go to dojo.soy/web-color-names

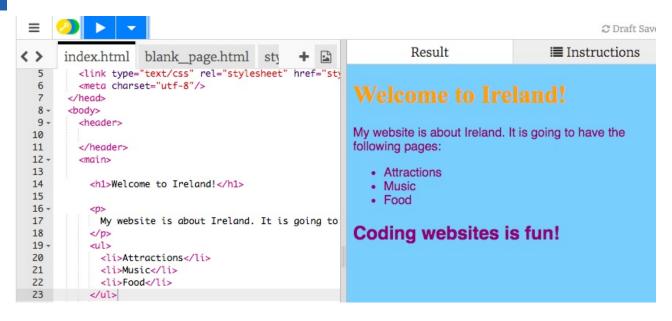


Making a list

I'm learning: HTML

When writing a list, wouldn't it be nice if the text looked more like a proper list? Well, there are html tags that do just that! Go back to the tab named index.html and change the paragraph code so that it looks like this:

Click Run. See how the text got put into a nice list?



- The tags go around the whole list, and they turn it into the nice looking list you now have. "ul" stands for unordered list. This means a list with no numbers. Each thing in the list must be in between list item.
 - Change the text in the list items to some pages that you would like to have in your website. Your website can be about anything you want, it doesn't have to be about your home country!



Making a list

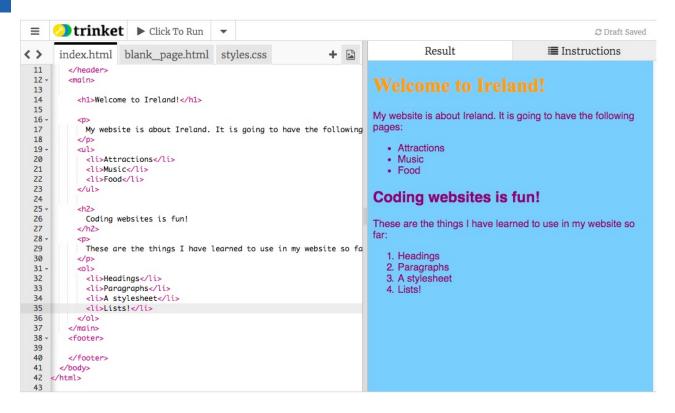
I'm learning: HTML

How about if you wanted a numbered list? It's almost the same, but instead of u1, you use o1, which stands for ordered list. Add the following code just above the line with the closing </main> tag:

```
These are the things I have learned to use in my website so far:

Headings
Paragraphs
A stylesheet
Lists!
```

Click Run. Here's what it should look like now





Adding pictures

I'm learning: HTML

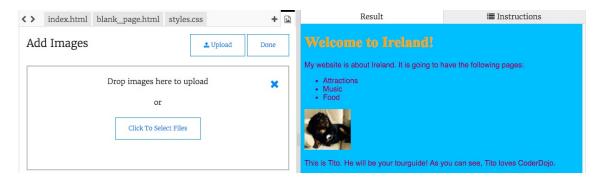
- Click on the image icon next to the + sign. This is where you can see the pictures that can be used on your website. For now you can use the picture included with the project.
- Go to the index.html file in the code panel. After the



Notice that the tag is different from the other tags you've used so far:

- There is no closing tag. Instead it is self closing: the opening tag has /> at the end. This is because there is no
 "start" and "end" like there is when you are putting text on the page.
- The tag contains three extra pieces of information inside it called attributes. The src attribute tells the browser what file to use for the picture. The alt attribute is a short description that the browser will show if it cannot display the picture.
- What do you think the width attribute does? (Hint: px is short for pixels, the teeny-tiny dots that make up your screen) Try experimenting with different numbers! Don't delete the letters px.
- To add a picture of your own to the website, click on the image icon again, and click "Add Image". Click "Upload" and then select "Click To Select Files". Select the file on your computer that you want to upload and click "Open". Click "Done" when you are finished uploading files, and then click Save to save your work.

Note: Check the name of your file before uploading it and **rename** it first if you need to. It's a good idea to have filenames that don't contain any spaces. Plus if you've downloaded a picture from the internet, it may be called something like "177823k-iewnf8832n2-3dkewnfwe512.png" which is not very easy to type!



Once you have uploaded a picture you can add it to your website using the tag as before. Change the value of the src attribute so that it exactly matches the name of the file with your picture. Change the value of the alt attribute to a short description of the picture. Important: Attribute values like the filename and the alt text must be inside quotation marks!



Adding more pages

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- So you've decided what pages you'd like to have in your website, now let's make them! To create a new web page, you create a new file with a name that ends in .html. At the top of the code panel, click on the + symbol next to the tabs. This will create a new file. Give it a name. Remember, it must end in .html (including the dot!) so that the browser knows it's a web page.
 - If you want to change the name of a file, click on the cog icon to the right of the filename, and click the pencil. Type in the new name and press Enter. You can also delete a file by clicking the bin icon instead of the pencil.



- You might be wondering why you can't change the name of the index.html file. "index.html" is a special name used for the homepage of a website. That's the first page you land on when you visit a website. When you go to a website's homepage, the browser looks for the file called "index.html" and displays it on your screen.
- Go the the file blank_page.html in the code panel (by clicking on the tab with that name). Select all of the text in the file by doing the following: Click anywhere inside the code panel, then press and hold the Ctrl key (or if you are using a Mac, the cmd key) and while holding it, press the A key at the same time. Notice how all the text becomes highlighted.



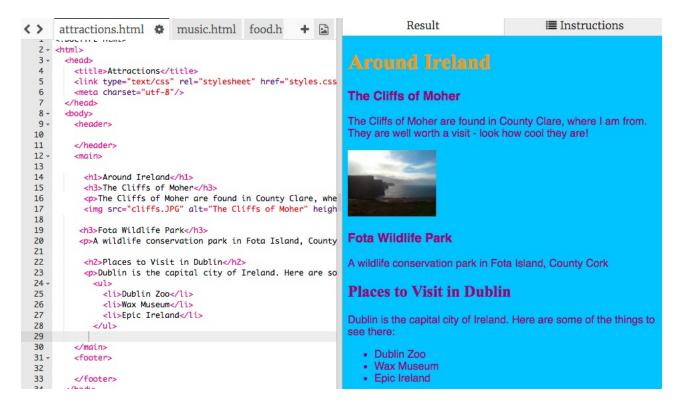
- Now, with the text selected, press and hold the Ctrl (or cmd) key again and then while holding it press the C key. This copies everything that was selected.
- Go to your new file and click inside the code panel (which is blank at the moment). Press and hold the **Ctrl** (or **cmd**) key and then while holding it, press the **V** key. This **pastes** everything that was copied into your new page.
 - You can use these keyboard shortcuts in most programs to copy and paste stuff, including text and files!
- Change the text in between the <title> </title> tags so your new page has a descriptive title.



Adding more pages

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- In between the <main> </main> tags in the new file, use the tags you have learned to add stuff to the page, such as paragraphs, headings, images and lists!
- Repeat the steps above for each new page that you want to add.
 - Remember, when there are too many tabs to be able to see them all, you can use the < and > icons in the top left corner of
 the tabs to scroll between them.



On the next card you're going to learn how to make links so that you have a way to get to the new pages.



Creating links

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To turn some text into a link, you put it in between <a> tags. It looks like this:

```
<a href="attractions.html">Attractions</a>
```

- The href attribute tells the browser the address of the page to link to. As with all attributes, the value you give it must go
 inside quotation marks.
- Go to the index.html file and add the tags to each item on your list of pages, so that it looks like this. Change the text inside the quotation marks so that it exactly matches the names of your new files that you created! Add in a list item with a link for the Homepage as well.

```
    <a href="index.html">Home</a>
    <a href="attractions.html">Attractions</a>
    <a href="music.html">Music</a>
    <a href="food.html">Food</a>
```

- Now you can navigate to your new pages! Click Save and then click Run to see your links and try them out.
- Links to other websites look the same. Type in the code for another set of link tags on your page, leaving the **href** value blank for now.

```
<a href="">Visit the Wikipedia page</a> to learn more about Ireland!
```

Go to a website that you want to link to. Click in the address bar and select all of the text. That's the whole address of the page you're on. Press the Ctrl (or cmd) and C keys together to copy it.



Note: In Trinket, only links that start with https:// will work. If your link starts with https:// it won't work in Trinket but it will work when you download your project and run the files in a browser (the s stands for secure).



Creating links

I'm learning: HTML

Now go back to your code. Click in between the quotation marks (make sure you see the cursor flashing there) and paste in the address by pressing Ctrl (or cmd) and V together. Click Run to try out the link!

```
<a href="https://en.wikipedia.org/wiki/Ireland">Visit the Wikipedia page</a> to learn more about Ireland!

<h2>
Coding websites is fun!
These are the things I have learned to use in
```

Just like the other text, you can make links be any colour you like in the stylesheet. Go to the styles.css file and add the following set of rules. Notice the selector for links is a . Choose any colour you want! Make it a different colour to the other text colours you have used. To see your changes, click Run.

```
a {
    color: Brown;
}
```



Navigating your website

I'm learning: HTML

- Many websites have a **navigation** menu to make it easy to get around the pages. Now that you've got a bunch of pages, a homepage, and links to get around, let's move the links to a navigation section at the top.
 - Home
 - Attractions
 - Music
 - Food

Welcome to Ireland!

My website is about Ireland. Click the links in the menu above to explore!



This is Tito. He will be your tourquide! As you can see, Tito loves CoderDoio.

- Just before the opening
 tag, press enter to create a new blank line, then on the new line type the following tag: <nav>.
 Trinket automatically adds in the closing tag for you, you can delete that for now.
- Just after the closing tag, press enter to go onto a new line, and type in the closing tag </nav> .
 - "nav" stands for navigation. The nav section is a set of tools for getting around a website.
- Now, select your entire nav section and list by clicking just before the opening <nav> tag and dragging the mouse all the way until just after the closing </nav> tag, so that all of the text including the opening and closing tags becomes highlighted. Make sure all of the angle brackets < and > at the start and end are highlighted too!

```
My website is about Ireland. It is going to have the fo
                                                                                         My website is about Ireland. It is going to have the following page
18
19 +
20 +
                                                                            18
          20 -
                                                                                       <!i><a href="index.html">Home</a></i><a href="attractions.html">Attractions</a></i><a href="music.html">Music</a></i><a href="food.html">Food</a></or>
                                                                                         <a href="index.html">Home</a>
                                                                                         22
23
23
                                                                                         <a href="food.html">Food</a>
                                                                            24
25
           26
                                                                            26
                                                                                       </nav>
           <img src="tito.png" alt="Tito the dog" width="100px">
                                                                                       <ima src="tito.pna" alt="Tito the doa" width="100px">
```

You are going to **cut** this time instead of **copy**. Press and hold the **Ctrl** (or **cmd**) key and while holding it press the **X** key. The code will disappear but don't panic!



Navigating your website

I'm learning: HTML

At the top of the file, click in the space between the <header> </header> tags. Make sure you see the cursor flashing there.

Now paste in the code by pressing Ctrl (or cmd) and V together as usual. Click Run to see your changes! The code should look something like this:

- If you make a mistake, you can undo it by pressing Ctrl (or cmd) and Z together. You can usually press it a few times to
 undo the last couple of changes. This is another handy shortcut that you can use in many programs!
- To make the navigation menu appear at the top of every page on your website, you put the same code into each new file that you created. Select the entire nav section like you did before, and press the Ctrl (or cmd) and C keys together to copy it.

 Then, in each of your other files, click inside the <header> </header> section and paste the code exactly like you did in Step 6.
- Now when you click Run, you will be able to click the links no matter which page you are on. Remember to click Save when you're done!



Making a menu bar

I'm learning: HTML

By adding more CSS rules in the stylesheet, you can transform your navigation menu into a cool looking menu bar!

Home Attractions Music Food

Go to the stylesheet file. Remember it is in the styles.css tab. Click *after* a closing curly brace } and press enter to go onto a new line. Add the following rule.

```
nav ul {
   background-color: tomato;
}
```

- Notice how you used **two selectors** instead of one? If you used the ull selector on its own, the rule would affect all unordered lists on your website. Adding the nav selector as well makes it only apply to lists that are in between nav tags.
- Click Run to see what it looks like.



Let's get rid of the bullet points. These are the spots in front of each list item. Go to the styles.css tab and add the following to the file. Again, type it on a new line after a } so it's not accidentally inside any other block of rules.

```
nav ul li {
    list-style-type: none;
}
```

Notice this set of rules has *three* selectors! It selects all li elements that are in a ul list which is inside a nav section. Phew!



Making a menu bar

I'm learning: HTML

Now let's make the list horizontal (across) instead of vertical (down). Inside the new set of rules, add the following line: display: inline;

Home Attractions Music Food

Welcome to Ireland!

The menu items are all squashed together, so let's also add the properties margin-right and margin-left to space them out a bit. The rules should look like this now:

```
nav ul li {

list-style-type: none;

display: inline;

margin-right: 10px;

margin-left: 10px;
}
```

Remember 10px means 10 pixels.

- How about making the menu change to to tell you which page you are on? This part won't be in the stylesheet.
- Let's start with the homepage. Go to the index.html file. In the list, remove the link tags before and after the word "Home", so that the list item for the homepage is just text in between tags, like this: Home.
- Now go to each of your other files, and do the same thing, each time removing the link tags for the page you are editing. So on the music.html file, remove the link tags in the "Music" list item, and so on.

Click Run and explore your pages. See how the menu bar shows the page you're on as plain text instead of a link?

```
8 -
9 -
10 -
         <body>
<header>
               <nav>
11 -
12
13
14
15
16
17
18
19 -
                 Around Ireland

<a href="index.html">Home</a>
>Attractions
<a href="music.html">Music</a>
<a href="food.html">Food</a>
</a>
</a>
                                                                                                                  The Cliffs of Moher
                 The Cliffs of Moher are found in County Clare, where I am from. They are well
            </nav>
                                                                                                                    worth a visit - look how cool they are!
            <main>
20
21
22
23
24
25
                <h1>Around Ireland</h1>
               <h3>The Cliffs of Moher</h3>
               The Cliffs of Moher are found in County Clare, where I am from<img src="cliffs.JPG" alt="The Cliffs of Moher" height="100px" />
             <h3>Fota Wildlife Park</h3>
```



Styling the menu bar

I'm learning: HTML

- With CSS, the possibilities for making your menu bar look great are endless. Open the styles.css file again (the place where the magic happens!) Each time you make a change, click Run to see what the website looks like.
- 2 Find your nav ul selector and add more rules so that it looks like this:

```
nav ul {
  background-color: tomato;
  border-style: solid;
  border-color: MediumVioletRed;
  border-width: 2px;
  padding: 10px;
}
```

The padding property adds space. Can you work out what each of the other properties does? Try experimenting with different colours and numbers of pixels.



- To get rid of the underline on the links, add the following code on a new line after the closing curly brace } for the nav ul li
 - You could put it after any } but it's a good idea to keep related stuff together so it's easier to find!

```
nav ul li a {
    text-decoration: none;
}
```

The above rule applies to *links* (<a> tags) inside *list items* in an *unordered list* inside a *navigation* (nav) section. Wow! That's *four selectors*!



Remember how you removed the link tags in some list items so you could easily see what page was clicked? Why not also change the text colour of those navigation list items which are not links! Find your nav ul li selector, and add the line

```
color: PapayaWhip;
```

inside the curly braces. Choose any colour you like!

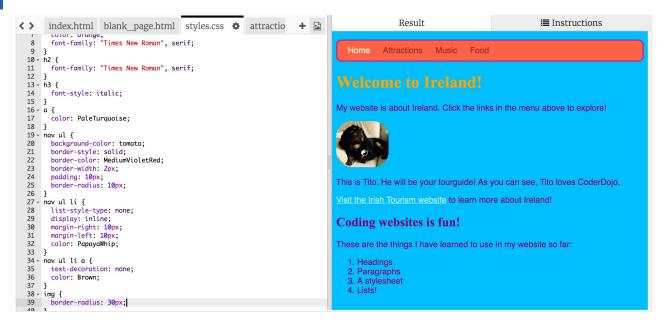
You can add the color property to the nav ul li a rules as well if you want the menu links to be a different colour from other links on your website.



Styling the menu bar

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- How about some rounded corners? Try adding the following rule to the nav ul rules to see what happens: border-radius:
 - o The border-radius property is a really easy way to make anything look cooler! For an extra challenge, create a new set of rules in your stylesheet for pictures, using the img selector, and add in a border-radius rule there.
- 6 Here's an example of what your stylesheet and web pages should look like by now.





Adding a map or video

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- Bonus: add a video! YouTube provides an easy way to **embed** (put) videos from it onto your website. Find a video on YouTube that you want to show on your website.
- Look for the "Share" button and click it. Select the option "Embed".
- You will see a text box with all the text selected (if you accidentally unselect the text, you can select it all again by clicking on it and pressing the Ctrl (or cmd) and A keys together on your keyboard, just like before). Press the Ctrl (or cmd) and C keys together on your keyboard to copy the text.



Then go to your code, and click in the place where you want to put the video, for example after a heading or paragraph. Paste the code by pressing Ctrl (or cmd) and V on your keyboard at the same time, as usual. Don't worry about understanding all the code you just pasted!



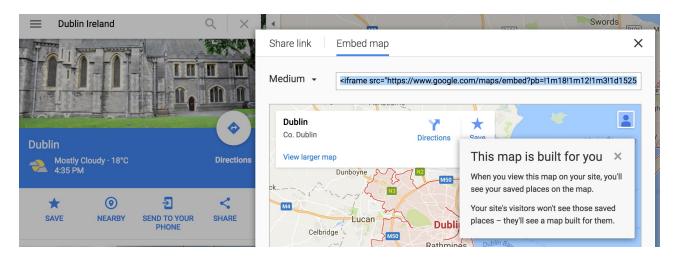
- Note: Depending on your browser's settings the video might be blocked. Ask a mentor to help you adjust the settings to
 enable content from external sites (sometimes called "unsafe content") to be shown.
- 5 Click Run to see the video appear on your web page.



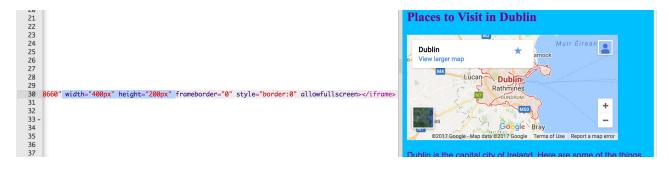
Adding a map or video

I'm learning: HTML

The same technique works for Google maps as well. Give it a go! Go to dojo.soy/google-maps and search for a place you want to show on your website. Click on the result, then find the Share button, click "Embed map" to get the code and add it to your website as above.



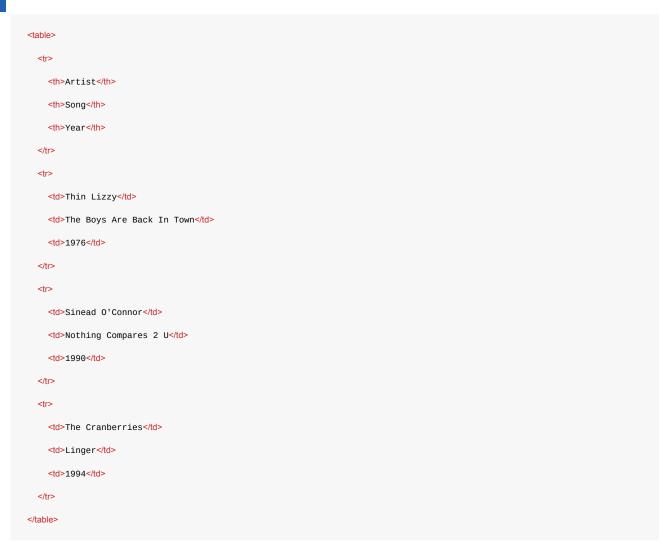
- Note: It's a good idea not to put personal information like your home address on a website!
- If you look carefully you should be able to find width and height attributes in the pasted code. You can change the values to make the map appear bigger or smaller.



Adding a table

I'm learning: HTML

- Sometimes it can be useful to show information in a table. For example if you want to list member information on a website for a local sports club or school. Or, in this example, songs! A table is a grid made up of **rows** and **columns**. Most tables also include titles at the top of each column, called the **header**.
- Go to the file page_with_table.html. There you will see a bunch of code in between tags. Select all of the code from the start of the tag to the end of the closing tag and copy it. Then go to one of your files where you would like to put a table and paste in the code.
- At the moment your table is empty. Here's an example of a table filled with information:



And here's what it looks like on the website:



Adding a table

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- Let's have a look at all those tags. It's a bit like the code for a list (remember

 and
 but with more levels.
 - Each pair of
 tr>
 tags is a row. So everything in between them will be displayed on one line.
 - The first row contains tags. These are used for the headers, so the column titles go in between them. There is one pair for each column you have in your table.
 - The
 tags stand for table data, and that's what goes in all the other rows. These are like the list item
 tags in a list: everything in between them is one item in your table row.
- Try filling your table with anything you like! Simply put text in between the tags and also in between the tags. You can add more tags if you need to.

If you look at the end of the styles.css file, you will see the CSS code that describes how the table should look. You don't have to understand all of it! But you can experiment with changing the text, border and background colours to design your own style.

```
table, th, td {
  border: 1px solid HoneyDew;
  border-collapse: collapse;
}
tr {
  background-color: PaleTurquoise;
}
th, td \{
  vertical-align: top;
  padding: 5px;
  text-align: left;
}
  color: purple;
}
td {
  color: purple;
}
```

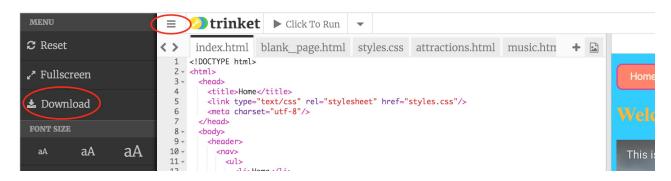
Notice how some of the selectors use **commas**, for example table, th, td? This is a *list of selectors*: it means it applies to *all* elements *and all* elements. It saves typing out the same set of rules again for each selector!



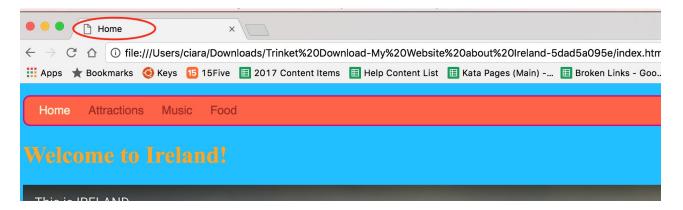
Download your project!

I'm learning: HTML

Lets download your code and look at it! At the top left corner of the code panel, click on the menu icon that looks like three lines, and click Download.



- A zip file will be downloaded. It contains all the files for your website. Extract it to a folder on your computer.
- Open up the extracted folder and find the file called index.html. Remember this file is your homepage. Double click on it to open it up in a **browser**. Click the links and explore your website in all its glory!
- Can you see the page title at the top of the tab or window? Notice the title on each page. This is the text you put in between the <title> </title> tags.



- Leave the browser window open, and go back to the window with the list of files. Find index.html again. This time right click it (to "right click" on a Mac, either click and hold, or click with two fingers!), select "Open With >" and choose a plain text editor such as Notepad, Notepad++ or Sublime Text. You should see all the HTML tags, like in the code panel on Trinket.
 - If you are using a Mac, you may need to install a plain text editor first
- As you know, a web page is just made up of text, with tags to control it. Now you can see that the web page and the code are in fact the same file: depending on whether you open it in a **browser** or a **plain text editor**, you will see either the **code** (text and tags) or the **web page** (just text).



Download your project!

I'm learning: HTML

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Congratulations! Why not share your project with other people to show it off? In Trinket, click the Share button (next to the Save button) and select one of the options.

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Have a record of your achievement you can share with your friends and family!

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Visit **dojo.soy/htmlb-badge** and follow the instructions on the page.

