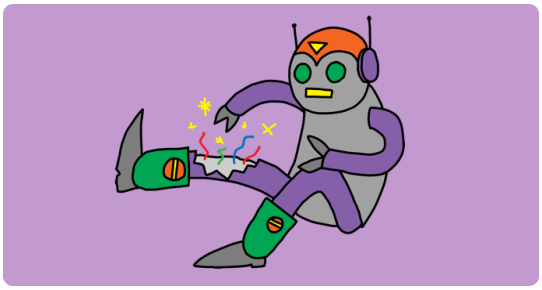
Projects

Build a robot

Learn how to position images to design your own robot

HTML / CSS



Step 1 Introduction

In this project, you'll learn how to position images to design your own robot!

What you will make

Use CSS to position robot parts to assemble your own robot.

What you will learn

This project covers elements from the following strands of the **Raspberry Pi Digital Making Curriculum** (http://rpf.io/curriculum):

- **Use basic programming constructs to create simple programs** (https://www.raspberrypi.org/curriculum/programming/creator)

Additional information for club leaders

If you need to print this project, please use the **printer-friendly version** (https://projects.raspberrypi.org/en/projects/build-a-robot/print).

Use the link in the footer to access the GitHub repo for this project, which contains all resources (including an example finished project) in the 'en/resources' folder.

Step 2 What you will need

Hardware

- A computer capable of accessing **trinket.io** (https://trinket.io)

Software

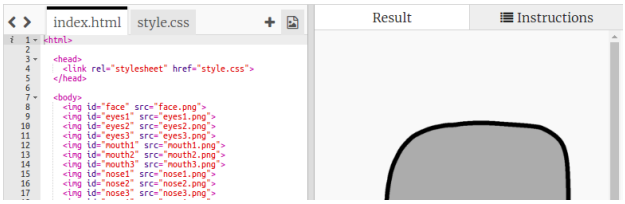
This project can be completed in a web browser using **trinket.io** (https://trinket.io).

Step 3 Giving your robot eyes

Let's give your robot some eyes!

- Open **this trinket** (http://jumpto.cc/web-robot).

  The project should look like this:

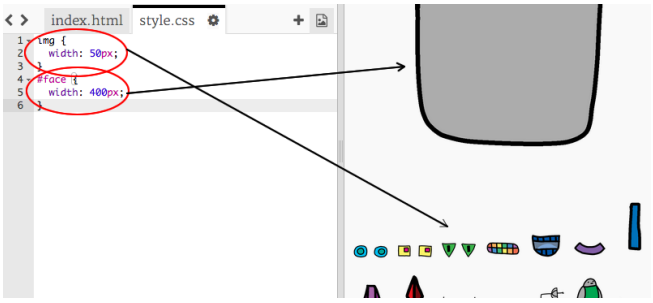


Each image in this project has its own name (or `id`). For example, the HTML code to address the face and eye images ('face', 'eyes1', and 'eyes2', starting on line 8 of your code) looks like this:

```
<img id="face" ...>
<img id="eyes1" ...>
<img id="eyes2" ...>
```

You can use an image's `id` to give it its own style, using CSS and the `#` symbol. This allows you to style each image separately.

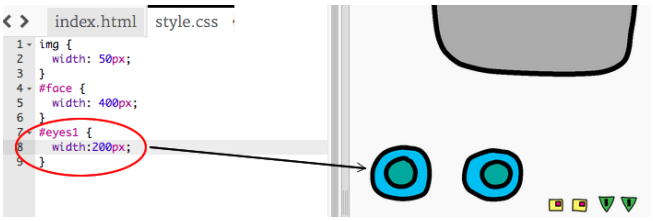
Click on the `style.css` file. Notice how the size of the robot's face and the other images are different?



- Add this CSS code to style the robot's eyes:

```
#eyes1 {
width: 200px;
}
```

Notice that you're styling just the `eyes1` image, by using `#eyes1` in your CSS code. If you prefer different eyes, you can use `#eyes2` or `#eyes3` instead!



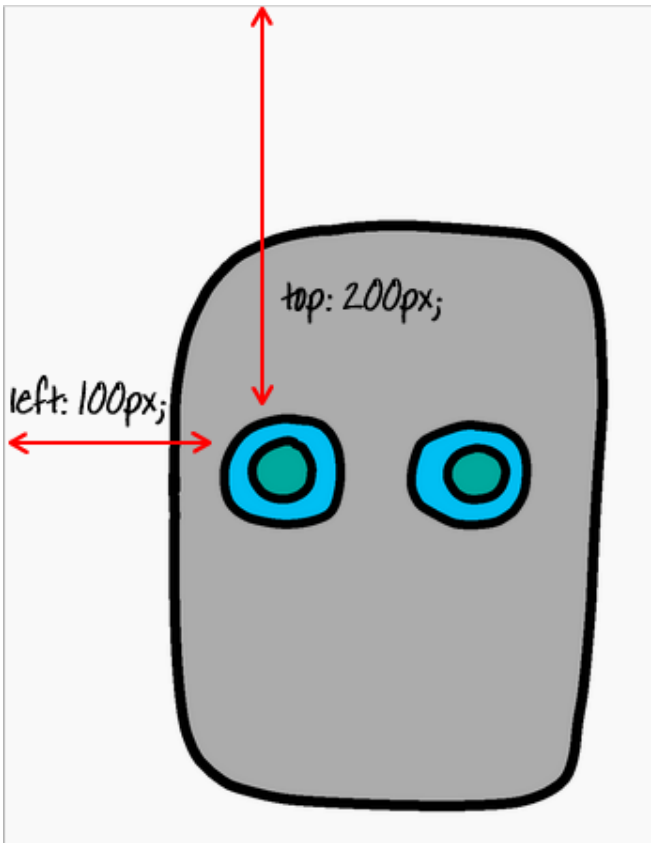
Notice how each image is displayed one after the other? This is called **relative** positioning. If you want to tell the browser exactly where to place your robot's eyes, you'll need to use **absolute** positioning instead.

- Add these three lines to the CSS code for your `eyes1` image:

```
position: absolute;
top: 200px;
left: 100px;
```

You should see that your robot's eyes move to the correct place on your robot.

This CSS code tells the browser how far from the top left-hand corner of the webpage to display the image.



You can use `bottom` instead of `top` to tell the browser how far from the bottom of the screen to show the image, as well as `right` instead of `left`.

Step 4 Giving your robot a mouth

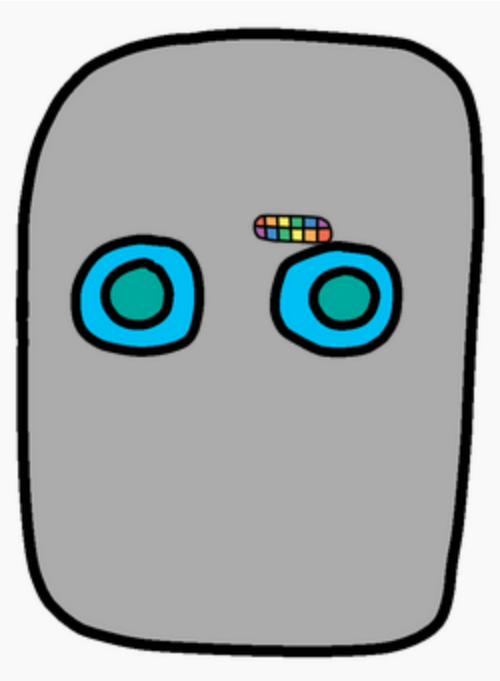
Let's give your robot a mouth!

- Add the following CSS code at the bottom of `style.css` to style your `mouth1` image:

```
#mouth1 {
    width: 50px;
    position: absolute;
    top: 200px;
```

```
    left: 200px;
}
```

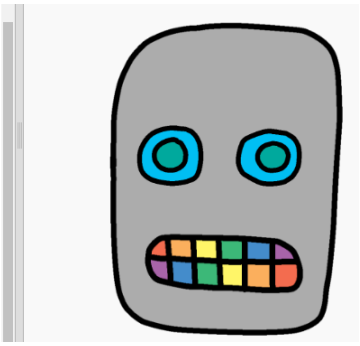
Your robot's mouth looks quite small, and it isn't in the right place!



- Can you fix this by making changes to your CSS code?

You should have something like this:

```
#mouth1 {
    width: 200px;
    position: absolute;
    top: 300px;
    left: 100px;
}
```



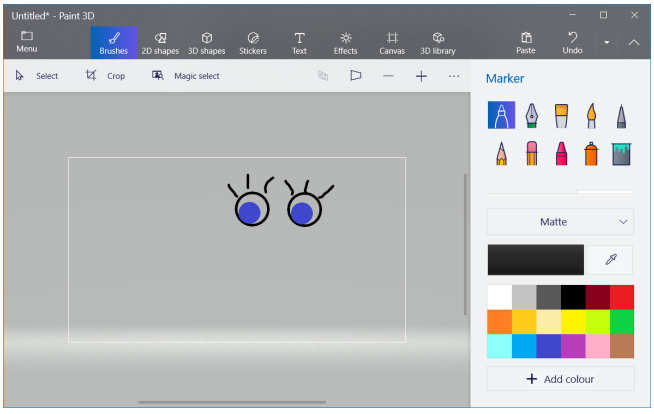
Step 5 Challenge: your own design

Use what you've learnt to finish designing your own robot. Here are some examples of how your robot might look:

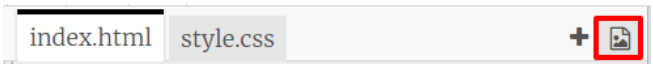
Step 6 Challenge: add your own images

Can you create images to add to your robot, and position them on your webpage?

Use whatever drawing software you have on your computer to draw some new robot parts, and save it as a `.png` image.



- Then upload the `.png` image into your trinket:



- Add the image to `index.html`:

```
<img id="purpleeyes" src="purpleeyes.png">
```

- And add CSS code to `style.css` to position it:

```
#purpleeyes {
  width: 140px;
  position: absolute;
  top: 125px;
  left: 85px;
}
```