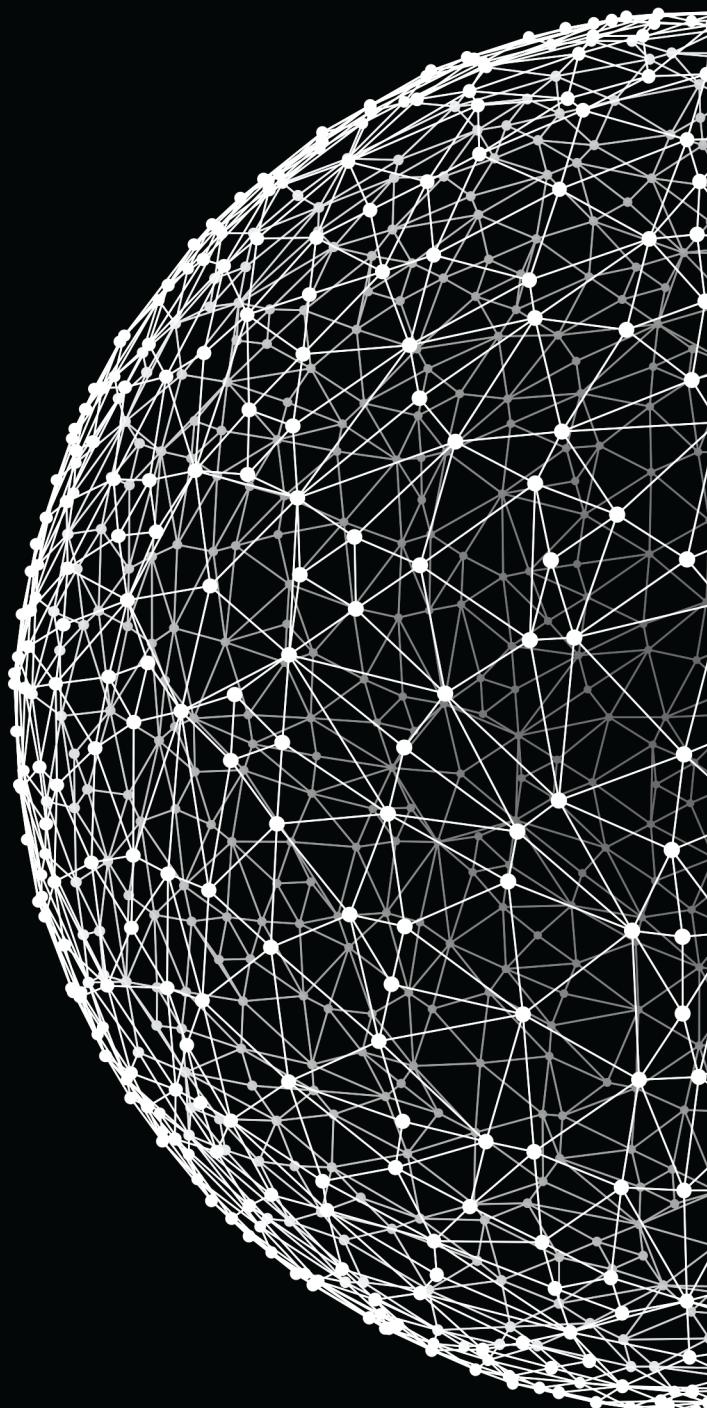


# Sprint 00

Half Marathon Web

March 3, 2021



**u**code connect

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# Engage

## DESCRIPTION

Welcome to the world of web development!

Today you will gain some fundamental knowledge of HTML and CSS. You'll find out how these two languages build web pages together, and how exactly they interact.

During this **Sprint**, you'll write your own web pages using HTML and CSS. They are the basic building blocks of web development.

Keep in mind that studying is not only about the time you spend on a task. Studying is first of all about effort and attention.

Let's get to work!

## BIG IDEA

The World Wide Web.

## ESSENTIAL QUESTION

How to develop for the World Wide Web?

## CHALLENGE

Start learning web technologies.

# Investigate

## GUIDING QUESTIONS

We invite you to find answers to the following questions. By researching and answering them, you will gain the knowledge necessary to complete the challenge. To find answers, ask the students around you and search the internet. We encourage you to ask as many questions as possible. Note down your findings and discuss them with your peers.

- What was the first website in the world?
- What elements does a web page consist of?
- How are the elements of a web page positioned?
- What is HTML?
- What does a HTML tag consist of?
- What is the basic structure of an HTML document?
- Are all web pages written in HTML?
- Is there a difference between HTML and HTML5?
- What are the new features of HTML5?
- What is the role of CSS?
- How is CSS processed by the browser?
- What is a URL and what does it contain?
- Why is HTTP an important part of the WWW?
- How do browsers render web pages?
- What happens during a web page request?

## GUIDING ACTIVITIES

Complete the following activities. Don't forget that you have a limited time to overcome the challenge. Use it wisely. Distribute tasks correctly.

- Open several random websites.
- Go to the browser's developer tools and inspect the source code of a web page.
- Analyze the markup elements that you see.
- Find out how to link CSS to HTML.
- Explore available editors for writing HTML and CSS.
- Choose the editor you like.
- Create a file and type "Hello World" using the tag for `h1`.
- Save it as `helloworld.html`.
- Open the saved HTML file in a browser.

## ANALYSIS

Analyze your findings. What conclusions have you made after completing guiding questions and activities? In addition to your thoughts and conclusions, here are some more analysis results.

- Be attentive to all statements of the story. Examine the given examples carefully. They may contain details that are not mentioned in the task.
- Analyze all information you have collected during the preparation stages.
- Perform only those tasks that are given in this document.
- Submit only the specified files in the required directory and nothing else. Garbage shall not pass.
- Pay attention to what is allowed. Use of forbidden stuff is considered a cheat and your challenge will be failed.
- Complete tasks according to the rules specified in the [Google HTML/CSS Style Guide](#). But, as per section [3.1.7 Optional Tags](#), it doesn't apply. Do not omit optional tags, such as `<head>` or `<body>`.
- The solution will be checked and graded by students like you. [Peer-to-Peer learning](#).
- If you have any questions or don't understand something, ask other students or just Google it.

# Act: Task 00

## NAME

Welcome, heroes!

## DIRECTORY

t00/

## SUBMIT

index.html, assets/images/t00.png

## ALLOWED

HTML

## DESCRIPTION

Create an HTML page. Take a look at the **EXAMPLE** image as a reference of what your web page must look like.

The web page must contain:

- a document type declaration: `<!doctype html>`
- `<html>` in the beginning of the document
- `</html>` in the end of the document
- a level-1 heading "Superhero trivia" (aligned to the center)
- three level-2 headings with the titles "What makes a superhero?", "Top superheroes", "My favorite superhero"
- some text about superheroes that (you can find the text in this [article](#) - the first paragraph)
  - uses the `<p>` tags
  - follows the first h2
  - contains a link
  - contains a segment in bold, and a segment in italics
  - is separated by line break
- an ordered list with four items (superhero names) following the second h2
- an unordered list with three items (sidekicks/allies of one of the superheroes) inside the 2nd item of the ordered list
- an image of a superhero of your choice following the third h2

- the name of that superhero and a short description following the image
- an anchor link to the first h2

All visible parts of the document are wrapped inside `<body>` tags.

Check your web page using an HTML validator.

## EXAMPLE

# Superhero trivia

## What makes a superhero?

A superhero is a person who does heroic deeds and has the ability to do them in a way that a normal person couldn't. So in order to be a superhero, **you need a power that is more exceptional than any power a normal human being could possess**, and you need to use that power to accomplish good deeds. Otherwise, a policeman or a fireman could be considered a superhero. For instance, a good guy fighting a bad guy could be just a regular police story or detective story or human-interest story. But if it's a good guy with a superpower who is fighting a bad guy, it becomes a superhero story. If the good guy is doing something that a normal human being couldn't do, couldn't accomplish, then I assume he becomes a superhero.

*Article on superheroes at [OUP blog](#)*

## Top superheroes

1. Superman
2. Batman
  - Robin
  - Alfred
  - Batgirl
3. Captain America
4. Hulk

## My favorite superhero



Batman

After witnessing the brutal murder of his parents, billionaire Bruce Wayne dedicated himself to purging Gotham City of evil. Spending years training his mind and body to perfection, he declared war on all crime in Gotham and became The Dark Knight, Batman.

[Anchor to "What makes a superhero?"](#)

## SEE ALSO

[HTML: Hypertext Markup Language](#)

[HTML Tutorial](#)

[HTML for beginners](#)

# Act: Task 01

## NAME

The Infinity Table

## DIRECTORY

t01/

## SUBMIT

index.html, style.css, assets/images/\*

## ALLOWED

HTML, CSS

## LEGEND

"Before creation itself, there were six singularities, then the universe exploded into existence and the remnants of this system were forged into concentrated ingots... Infinity Stones."

- Taneleer Tivan, The Collector

## DESCRIPTION

Create an HTML web page with a table filled with information about the Infinity Stones. There are four columns in the table:

- Name
- Color
- Powers and capabilities
- Image

There are eight rows:

- header row with column titles
- six regular rows, one per each stone
- footer row with a link to a Wikipedia page about the Infinity Stones

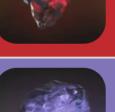
Don't worry about having identical text in the 'Powers and capabilities' column. As long as your text is similar in length, it's fine. Use the images available in resources.

Describe all styles in a CSS file.

Image height must be 120px. The resulting web page must look identical to the EXAMPLE image. Pay attention to colors, borders, alignment, font weight, etc.

While working on your CSS file, play around and change colors and shapes using browser developer tools.

## EXAMPLE

The Infinity Stones			
Name	Color	Powers and capabilities	Image
Soul	Orange	Allows the user to steal, control, manipulate, and alter living and dead souls. The Soul Gem also acts as a gateway to an idyllic pocket universe. At full potential, when backed by the Power Gem, the Soul Gem grants the user control over all life in the universe.	
Time	Green	Allows the user to see into the past and the future; stop, slow down, speed up or reverse the flow of time; travel through time; change the past and the future; age and de-age beings, and trap people or entire universes in unending loops of time. At full potential, when backed by the Power Gem, the Time Gem grants the user omniscience and total control over the past, present, and future.	
Space	Blue	Allows the user to exist in any location; move any object anywhere throughout reality; warp or rearrange space; teleport themselves and others; increase their speed, and alter the distance between objects contrary to the laws of physics. At full potential, when backed by the Power Gem, the Space Gem grants the user omnipresence.	
Mind	Yellow	Allows the user to enhance their mental and psionic abilities and access the thoughts and dreams of other beings. At full potential, when backed by the Power Gem, the Mind Gem can access all minds in existence simultaneously. The Mind Gem is also the manifestation of the universal subconscious.	
Reality	Red	Allows the user to fulfill their wishes, even if the wish is in direct contradiction with scientific laws, and do things that would normally be impossible. At full potential, when backed by the other five Gems, the Reality Gem allows the user to alter reality on a universal scale and also create any type of alternate reality the user wishes.	
Power	Purple	Allows the user to access and manipulate all forms of energy; enhance their physical strength and durability; enhance any superhuman ability; and boost the effects of the other five Gems. At full potential, the Power Gem grants the user omnipotence.	

[marvelcinematicuniverse.fandom.com/wiki/Infinity\\_Stones](http://marvelcinematicuniverse.fandom.com/wiki/Infinity_Stones)

## SEE ALSO

<table>: The Table element  
HTML Tables  
Marvel:Infinity Stones

# Act: Task 02

## NAME

Super-Search

## DIRECTORY

t02/

## SUBMIT

index.html, style.css

## ALLOWED

HTML, CSS

## DESCRIPTION

Use HTML and CSS to create a search form.

There must be a heading, a space for the search query, and a clickable button "Find". The search field must have some placeholder text.

Style requirements for the search text and the "Find" button:

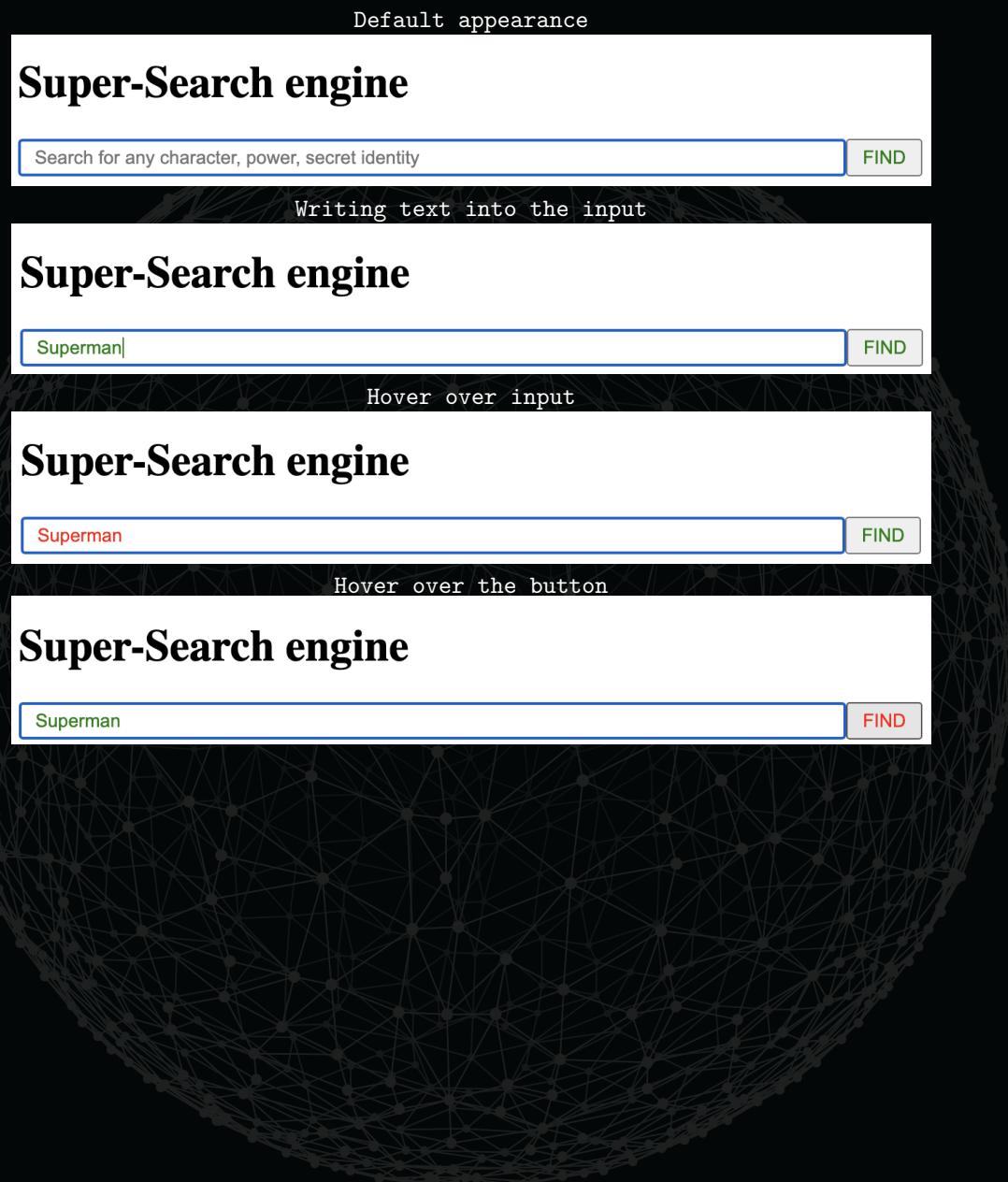
- text color (don't worry about the color of the placeholder text)
- normally green
- red on hover
- 10px horizontal padding
- 2em height

The input field and the button must be in the same row, with the button to the right of the input.

The width of the button depends on the length of its text ("Find"). The width of the input takes up all the space left available.

See the **EXAMPLE** image for more reference of what your web page will look like.

## EXAMPLE



# Act: Task 03

## NAME

Japan

## DIRECTORY

t03/

## SUBMIT

index.html, style.css

## ALLOWED

CSS

## LEGEND

That's where Ronin was born.

## DESCRIPTION

Create a CSS file for the web page available in the SYNOPSIS. Put the provided content in the `index.html` and don't change it.

Create the flag of Japan using only CSS. The EXAMPLE image illustrates how your web page must look like.

Don't use any images, you have to draw the shape using CSS.

## SYNOPSIS

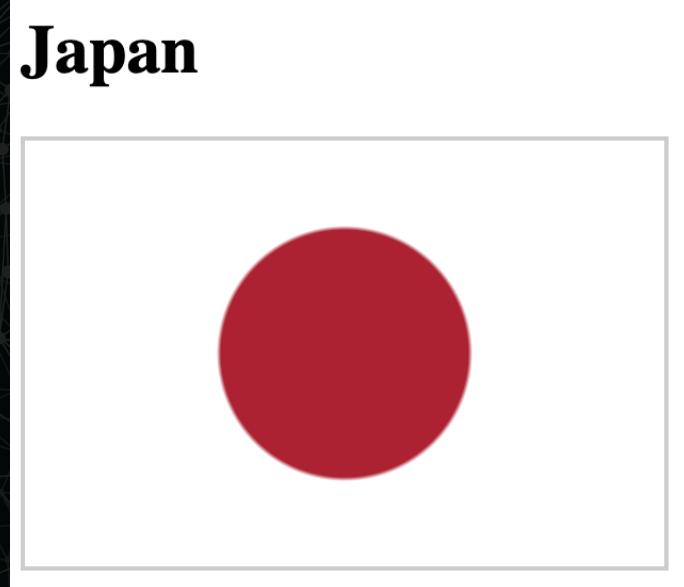
```
<!DOCTYPE html>
<html lang="en">

<head>
  <meta charset="utf-8">
  <title>Japan</title>
  <meta name="description" content="t03. Japan">
  <link rel="stylesheet" href="style.css">
</head>

<body>
```

```
<h1>Japan</h1>
<div class="japan"></div>
</body>
</html>
```

## EXAMPLE



# Act: Task 04

## NAME

Superhero cards

## DIRECTORY

t04/

## SUBMIT

index.html, style.css, assets/images/\*

## ALLOWED

HTML, CSS

## DESCRIPTION

Create a web page with a list of superheroes using HTML and CSS. The list will look like a set of cards with different superheroes. Each card is a gradient-filled rectangle with the superhero's image, alias, and real name. A card has

- 270px width
- 140px height
- 5px border radius
- Verdana font for text

Write the superhero alias in white and size 12px, and the real name in rgba(255, 255, 255, 0.5) and size 9px.

Images of the superheroes must have a height of 182px. The position of the images must be relative to their blocks, and have the bottom edge position adjusted higher by 47px (or 25px for Spider-Man).

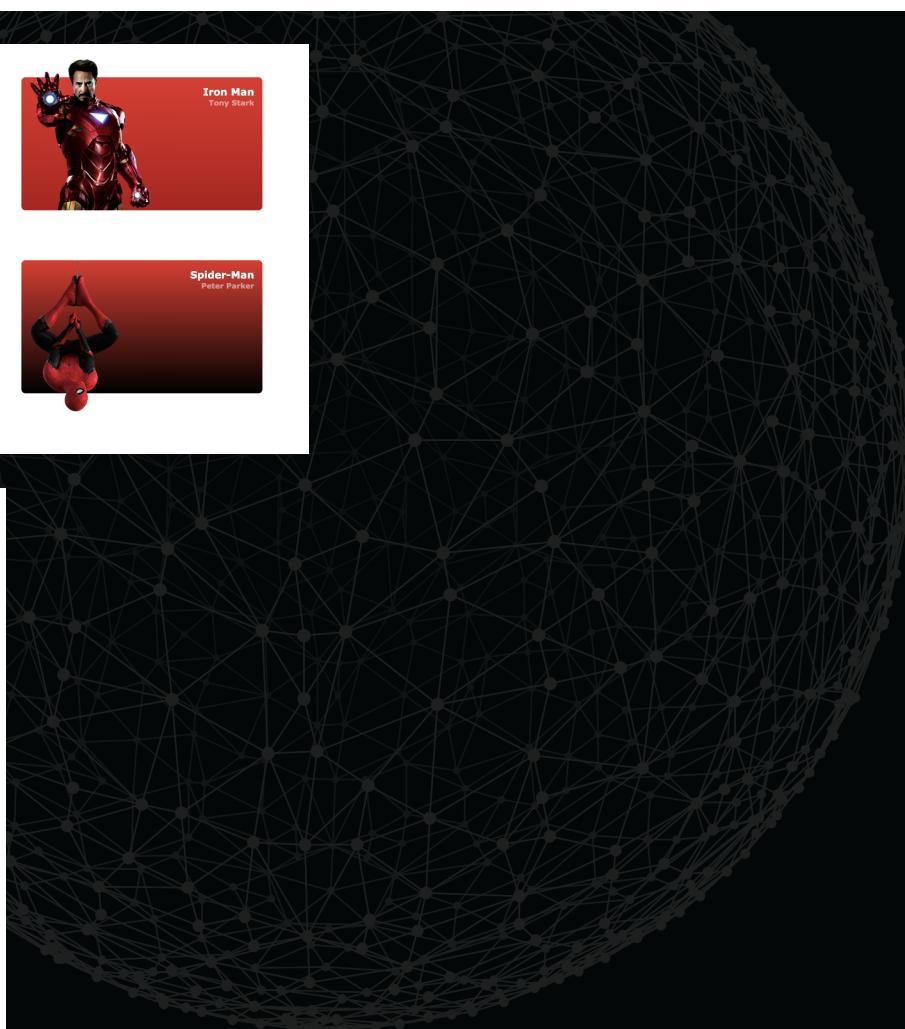
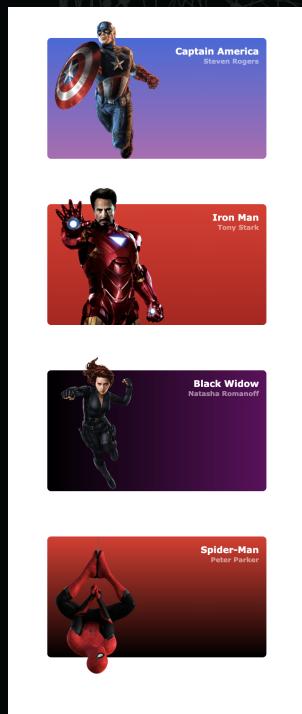
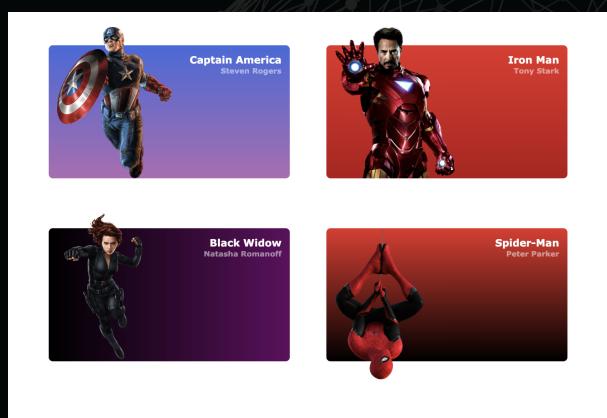
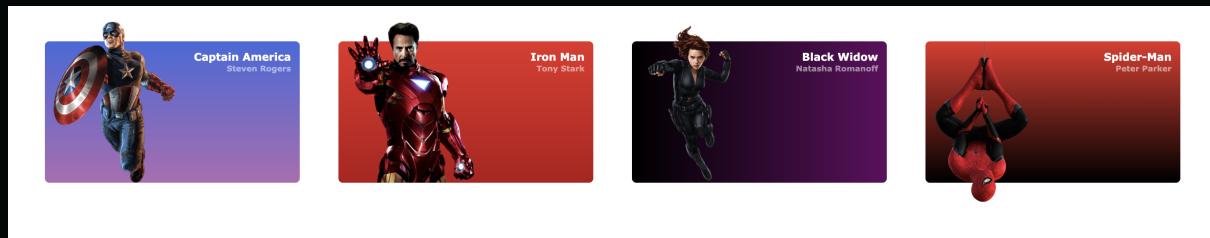
Each superhero has different colors for the gradient background:

- Captain America: from #4568DC to #B06AB3
- Iron Man: from #e52d27 to #b31217
- Black Widow: from #000 to #61045F
- Spider-Man: from #e52d27 to #000

Make sure that when resizing the window, the blocks rearrange and move to the next row (nothing breaks). See the EXAMPLE images.

Use the images available in resources.

## EXAMPLE



# Act: Task 05

## NAME

Get into position!

## DIRECTORY

t05/

## SUBMIT

index.html, style.css

## ALLOWED

CSS

## DESCRIPTION

Create a CSS file for the HTML page written in the **SYNOPSIS**. Put the provided content in the `index.html` and don't change it.

The contents of the web page must look identical to the **EXAMPLE** image. Use bold "Arial" font in size 4em.

Don't use any images or photos.

## SYNOPSIS

```
<!DOCTYPE html>
<html lang="en">

<head>
  <meta charset="utf-8">
  <title>Get into position!</title>
  <meta name="description" content="t05. Get into position!">
  <link rel="stylesheet" href="style.css">
</head>

<body>
<h1><span>DEADPOOL</span></h1>
</body>

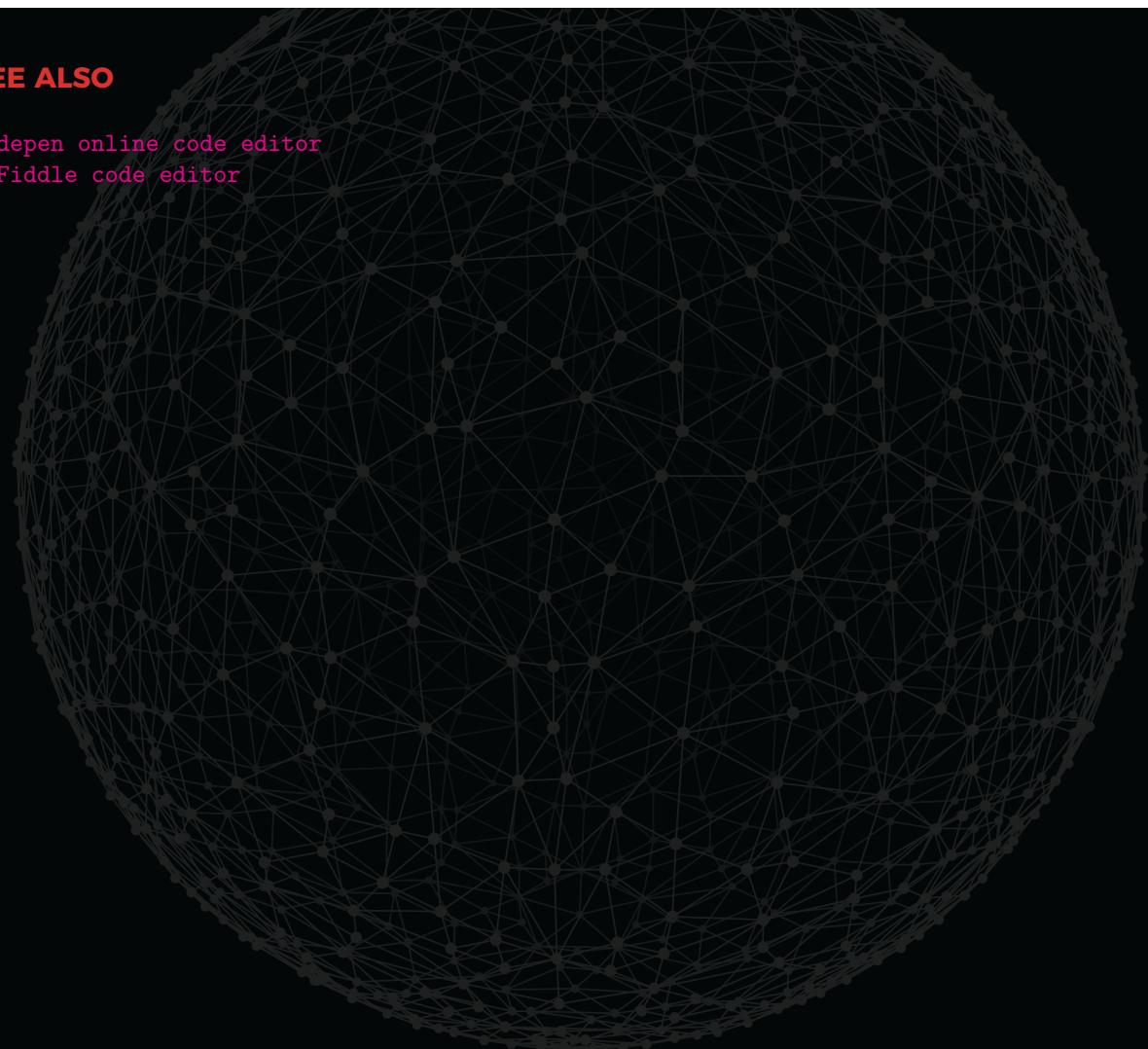
</html>
```

## EXAMPLE

# DEADPOOL

## SEE ALSO

[Codepen online code editor](#)  
[JSFiddle code editor](#)



# Act: Task 06

## NAME

Unicorn

## DIRECTORY

t06/

## SUBMIT

index.html, style.css

## ALLOWED

CSS

## DESCRIPTION

Create a CSS file for the HTML page written in the **SYNOPSIS**. Put the provided content in the **index.html** and don't change it.

The rainbow block has:

- 100px height
- width that takes up all available space
- color gradient of the rainbow color range

The horn block has:

- isosceles triangle shape (or the shape of a unicorn horn, if you can do it)
- any background color
- position that is 40px over the rainbow block, and 100px from the left edge of the page

See the **EXAMPLE** image.

## SYNOPSIS

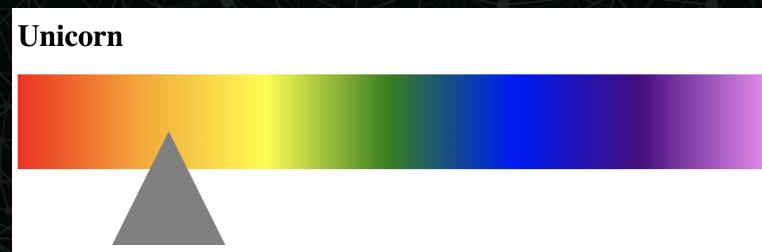
```
<!DOCTYPE html>
<html lang="en">

<head>
  <meta charset="utf-8">
  <title>Unicorn</title>
  <meta name="description" content="t06. Unicorn">
  <link rel="stylesheet" href="style.css">
</head>

<body>
  <h1>Unicorn</h1>
  <div id="rainbow-block"></div>
  <div id="horn-block"></div>
</body>

</html>
```

## EXAMPLE



# Act: Task 07

## NAME

Heroic table

## DIRECTORY

t07/

## SUBMIT

index.html, style.css

## ALLOWED

HTML, CSS

## DESCRIPTION

Create a web page, using HTML and CSS, with a table of the stats of several popular superheroes. The table has 6 columns: `name` (of the superhero), `is human` (true/false), `superpower` (of the superhero), `intelligence` (0-100), `strength` (0-100), `speed` (0-100).

Describe the style entirely in the CSS file.

The table has a background color as a gradient from `#6e0000` to `antiquewhite`, and a 4px border.

Header row:

- `text: #ffe369, bold`
- `background color: rgba(110, 0, 0, 0.4)`
- `border: 2px, color - rgba(189, 195, 199, 0.05)`
- `padding: 10px`

Cells of the first column have text in `white` color and bold typeface. Cells of alternate rows in the first column have the background color of `rgba(143,148,251, 0.1)`.

Cells in the other columns (2-6):

- `text color: midnightblue`
- `border: 2px, rgba(189, 195, 199, 0.05)`
- `padding: 5px for top and bottom, 50px for right and left`
- additional formatting:
  - if equal to "FALSE" or 100: `white` text and `darkred` background
  - else: `midnightblue` text and `antiquewhite` background

Link:

- text: white, bold
- padding: 10px

See the EXAMPLE image.

## EXAMPLE

Table

NAME	IS HUMAN	SUPERPOWER	INTELLIGENCE	STRENGTH	SPEED
Batman	TRUE	Peak Human Condition	100	30	25
Captain America		Artificially Enhanced Physiology	90	35	45
Daredevil		Superhuman Senses	90	15	35
Green Lantern		Bright Green Energy Conduit	80	100	100
Hulk		Superhuman Strength	60	100	85
Iron Man		Direct Cybernetic Interface	100	85	70
Spider-Man		Animal Oriented Powers	95	55	65
Superman	FALSE	Kryptonian Physiology	95	100	100
The Flash	TRUE	Speed Force Conduit	95	50	100
Thor	Asgardian/Elder God Hybrid Physiology	80	100	100	
Wolverine	FALSE	Unbreakable Skeleton	80	40	40
Wonder Woman		Divine Empowerment	90	100	100

[superherodb.com](http://superherodb.com)

# Act: Task 08

## NAME

Superhero application

## DIRECTORY

t08/

## SUBMIT

index.html, style.css

## ALLOWED

HTML, CSS

## LEGEND

Heroes are made by the paths they choose, not the powers they are graced with.  
- Brodi Ashton, Everneath

## DESCRIPTION

Create a web page with a form for entering data about a superhero. The form has a 2px gray border and a 20px padding. Make sure to use the <form> tag. The form has the following sections:

**About the Superhero** - input fields with text/hints

- real name - to insert text with autofocus (required)
- superhero name - to insert text with the alias of the superhero
- age - to insert numbers (1 - 999 with step 1)
- about - multiline text (starting size - 5 lines, 70 symbols in a line, max 500 symbols)
- photo - a button for loading a superhero's image

**Powers** - superhero's abilities

- 6 checkboxes with superpowers
- a range slider to indicate the level of control over the powers (from 0 to 10 with step 1, start number is 1)

**Origin of Powers** - how the superhero got his powers

- 5 radio-buttons with options of origins of superpowers

## Buttons - untitled section

- clear all of the form's fields
- send the form

See the **EXAMPLE** image as a reference of what your web page must look like. Add some design if you like.

## EXAMPLE

### Superhero Form



About the Superhero

Real Name  Superhero real name Superhero Name  Superhero alias  Age

Information about the superhero, max 500 symbols

About

Photo:  Choose file No file chosen

Powers

Telekinesis  Super strength or speed  Shapeshifting  Flight  Elemental control  Other

Level of control:

Origin of Powers

Unknown  Freak lab accident  Chosen by an ancient wise being  The superhero is not human  Other

## SEE ALSO

[Your first form](#)  
[HTML Forms](#)

# Act: Task 09

## NAME

bLink182

## DIRECTORY

t09/

## SUBMIT

index.html, style.css

## ALLOWED

CSS

## DESCRIPTION

Create a CSS file for the HTML page written in the **SYNOPSIS**. Put the provided content in the **index.html** and don't change it.

The HTML code contains a list of links. Use CSS to highlight the links in different ways.

Use the following link conditions for highlighting:

- contains **WWW** after the protocol - **green**
- would be opened in a new tab - add "\21D2" in **coral** after the link
- contains an HTTPS protocol - add "\00BB" (10px right padding) before the link
- contains an HTTP protocol - add "\00D7" (10px right padding) in **red** before the link
- ends with **a** - hover effect: add "\2026 last symbol is **a**" in **coral** and **italics** after the link

See the **EXAMPLE** image.

## SYNOPSIS

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="utf-8">
    <title>bLink182</title>
    <meta name="description" content="t09. bLink182">
    <link rel="stylesheet" href="style.css">
</head>

<body>
    <h1>Links</h1>
    <ul>
        <li><a href="https://developer.mozilla.org/">developer.mozilla.org</a></li>
        <li><a href="https://validator.w3.org/">validator.w3.org</a></li>
        <li><a href="https://www.freecodecamp.org/" target="_blank">freecodecamp.org</a></li>
        <li><a href="https://uicode.world/">uicode.world</a></li>
        <li><a href="https://schema.org/a" target="_blank">schema.org</a></li>
        <li><a href="https://www.sitemaps.org/">sitemaps.org</a></li>
        <li><a href="http://nginx.org/">nginx.org</a></li>
        <li><a href="https://prometheus.org.ua">prometheus.org.ua</a></li>
        <li><a href="http://test.www.link/">test.www.link</a></li>
    </ul>
</body>
</html>
```



## EXAMPLE

# Links

- » [developer.mozilla.org](#)
- » [validator.w3.org](#)
- » [freecodecamp.org](#) ➔
- » [ucode.world](#)
- » [schema.org](#) ➔
- » [sitemaps.org](#)
- ✗ [nginx.org](#)
- » [prometheus.org.ua](#)
- ✗ [test.www.link](#)

with hover:

# Links

- » [developer.mozilla.org](#)
- » [validator.w3.org](#)
- » [freecodecamp.org](#) ➔
- » [ucode.world](#)
- » [schema.org ... last symbol is 'a'](#)
- » [sitemaps.org](#)
- ✗ [nginx.org](#)
- » [prometheus.org.ua](#)
- ✗ [test.www.link](#)

# Act: Task 10

## NAME

Weather

## DIRECTORY

t10/

## SUBMIT

index.html, style.css, assets/images/\*

## ALLOWED

HTML, CSS

## LEGEND

"Good morning. It's 7 A.M. The weather in Malibu is 72 degrees with scattered clouds. The surf conditions are fair with waist to shoulder highlines, high tide will be at 10:52 a.m."

-J.A.R.V.I.S.

## DESCRIPTION

Create a web page with a weather forecast for a week. The width and height of day blocks are fixed and independent of browser size. Apply a hover effect for day blocks using a shadow effect.

Text:

- font - Lato Regular (400) for temperature, Lato Bold (700) for date
- size - 1.5em for date, 2em for temperature

Put all necessary graphics (only .png or .jpg) to assets/images/. See the EXAMPLE image.

## EXAMPLE



# Act: Task 11

## NAME

Groot

## DIRECTORY

t11/

## SUBMIT

index.html, style.css

## ALLOWED

CSS

## DESCRIPTION

Create a CSS file for the HTML page written in the **SYNOPSIS**. Put the provided content in the **index.html** and don't change it.

The resulting web page will contain a text block. The width of this block has to be responsive to the size of the browser window, and always be 200px less than the window width. Size of the edges of the text block is 25px.

See the **EXAMPLE** image.

## SYNOPSIS

```
<!DOCTYPE html>
<html lang="en">

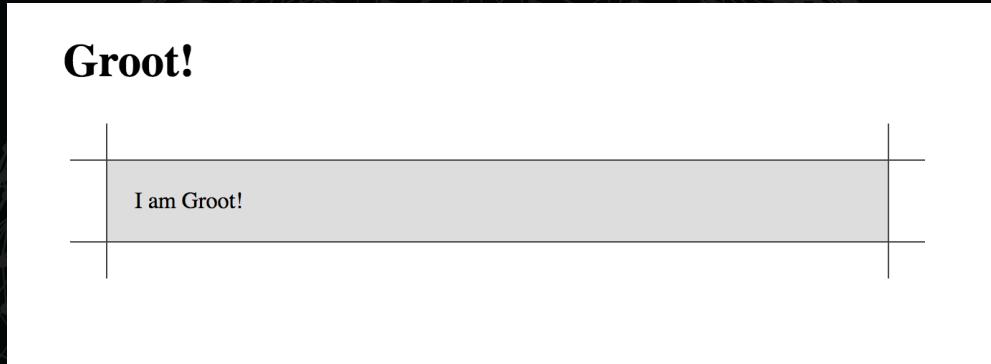
<head>
  <meta charset="utf-8">
  <title>Groot</title>
  <meta name="description" content="t11. Groot">
  <link rel="stylesheet" href="style.css">
</head>

<body>

<h1>Groot!</h1>
<div class="box">I am Groot!</div>
```

```
</body>  
</html>
```

## EXAMPLE



# Share

## PUBLISHING

Last but not least, the final stage of your work is to publish it. This allows you to share your challenges, solutions, and reflections with local and global audiences. During this stage, you will discover ways of getting external evaluation and feedback on your work. As a result, you will get the most out of the challenge, and get a better understanding of both your achievements and missteps.

To share your work, you can create:

- a text post, as a summary of your reflection
- charts, infographics or other ways to visualize your information
- a video, either of your work, or a reflection video
- an audio podcast. Record a story about your experience
- a photo report with a small post

Helpful tools:

- [Canva](#) - a good way to visualize your data
- [QuickTime](#) - an easy way to capture your screen, record video or audio

Examples of ways to share your experience:

- [Facebook](#) - create and share a post that will inspire your friends
- [YouTube](#) - upload an exciting video
- [GitHub](#) - share and describe your solution
- [Telegraph](#) - create a post that you can easily share on Telegram
- [Instagram](#) - share photos and stories from ucode. Don't forget to tag us :)

Share what you've learned and accomplished with your local community and the world. Use [#ucode](#) and [#CBLWorld](#) on social media.