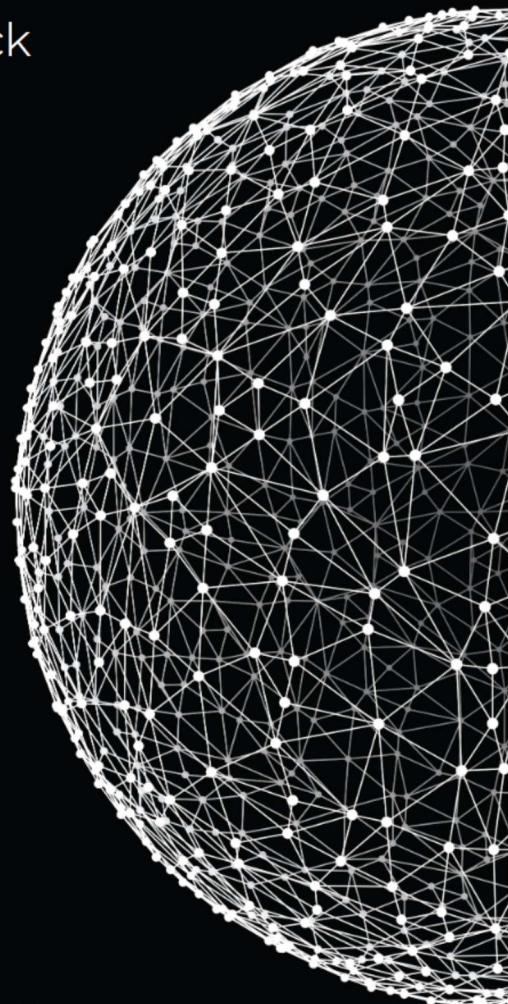


Sprint 00

Half Marathon Full Stack

November 15, 2021



ucode 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.



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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 solutions, 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 is HTML?
- What is a web page?
- Are all web pages written in HTML?
- What is an HTML element?
- What is an HTML attribute?
- 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?
- What is the difference between working in an IDE and a text editor?
- What are the best IDEs for front-end web development at the moment?

GUIDING ACTIVITIES

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

- Change your ucode profile using [Chrome developer tools](#):
 1. Go to the [ucode LMS](#)
 2. Find out how to open the Chrome DevTools
 3. Look at the all existing panels (Elements, Console, Sources, Network, etc.).
 4. Right-click on your login in the LMS and select "Inspect"
 5. You can see the selected text, right-click on it again "Edit as HTML" and change your login to "superhero"
 6. Add a blue color to this word (note: find how to make the text colorful)
 7. Then repeat these steps, but with your photo. Change it to the image of your favorite hero
 8. Right now you have the opportunity to independently increase the number of lives (hearts)
 9. Find out why all your changes won't be available to other people
 10. Save the page with changes ([SingleFile](#) can help you) and show your peers



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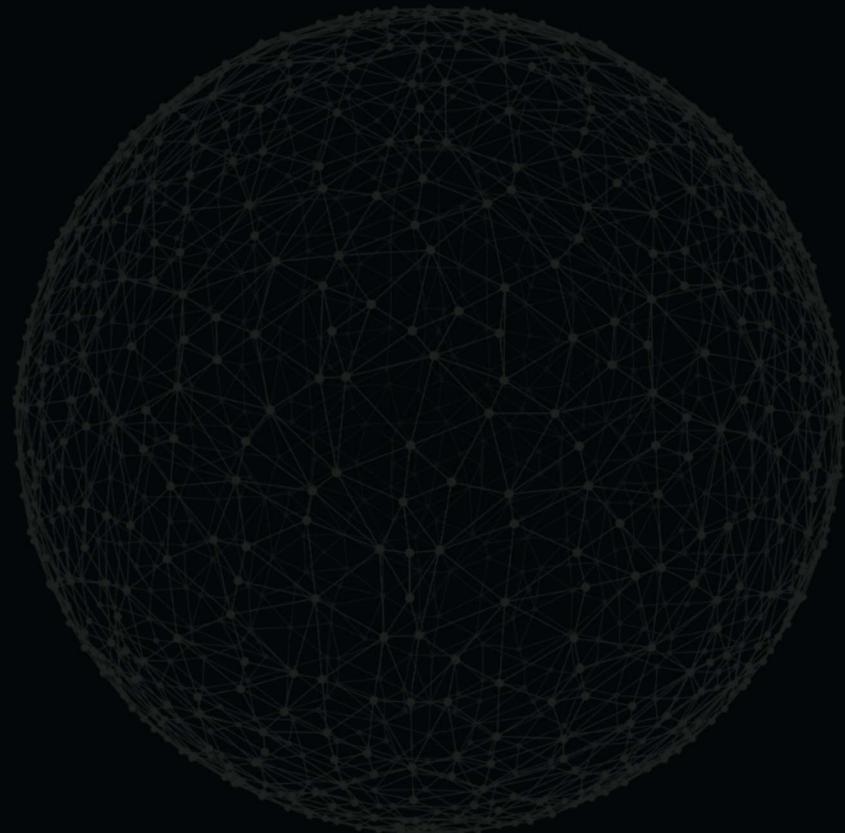
- As a web developer you need to have good integrated development environment which perfectly fits your preferences.
 1. Explore available editors:
 - Sublime Text
 - Brackets
 - Atom
 - WebStorm
 - Visual Studio Code
 2. Keep in mind that you will work with HTML/CSS and JavaScript. Try to choose an editor that combines everything you need for development
 3. Keep in mind that Terminal support makes it easy to submit tasks to the repository and navigate directories
 4. But, of course, everything is at your discretion and convenience
 5. So, find out selected IDE/IDEs and configure it
- 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.
- All tasks are divided into **Act Basic** and **Act Advanced**. This means that the complexity of the tasks increases gradually. Try to complete all tasks to get maximum points and more knowledge.
- 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>`.
- For your convenience, we advice you to check solutions in a [HTML validator](#).
- The solution will be checked and graded by students like you. [Peer-to-Peer learning](#).
- Your work may also be graded by your mentor. So, be ready for that.

- Also, the challenge will pass automatic evaluation which is called **Oracle**.
- If you have any questions or don't understand something, ask other students or just Google it.



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Act Basic: Task 00

NAME

Welcome, heroes!

DIRECTORY

t00_welcome_heroes/

SUBMIT

index.html, assets/images/t00.png

ALLOWED

HTML

BEFORE YOU BEGIN

You need to understand basic structure of an HTML document. Example can be found [here](#). And minimal description can be found [here](#).

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



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- 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 [QUP 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 for beginners](#)



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Act Basic: Task 01

NAME

The Infinity Table

DIRECTORY

t01_the_infinity_table/

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.

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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**SEE ALSO****<table>: The Table element****HTML Tables****Marvel:Infinity Stones****ucode connect****Sprint 00 | Half Marathon Full Stack > 9**

Act Basic: Task 02

NAME

Super-Search

DIRECTORY

t02_supersearch/

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

Default appearance

Super-Search engine

Search for any character, power, secret identity

Writing text into the input

Super-Search engine

Superman

Hover over input

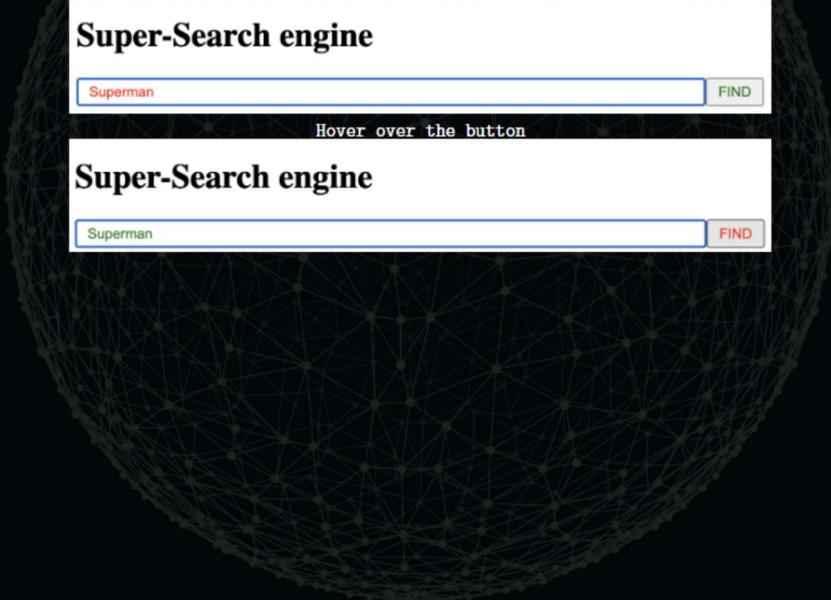
Super-Search engine

Superman

Hover over the button

Super-Search engine

Superman



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Act Basic: Task 03

NAME

Superhero cards

DIRECTORY

t03_superhero_cards/

SUBMIT

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

ALLOWED

HTML, CSS

BEFORE YOU BEGIN

It's time to care about performance of your web pages.

When it comes to web pages' download sizes, you should aim to have all the assets as lightweight as possible.

Start with a few articles from [here](#).

You may also save this site for a future as a guideline on optimization.

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:

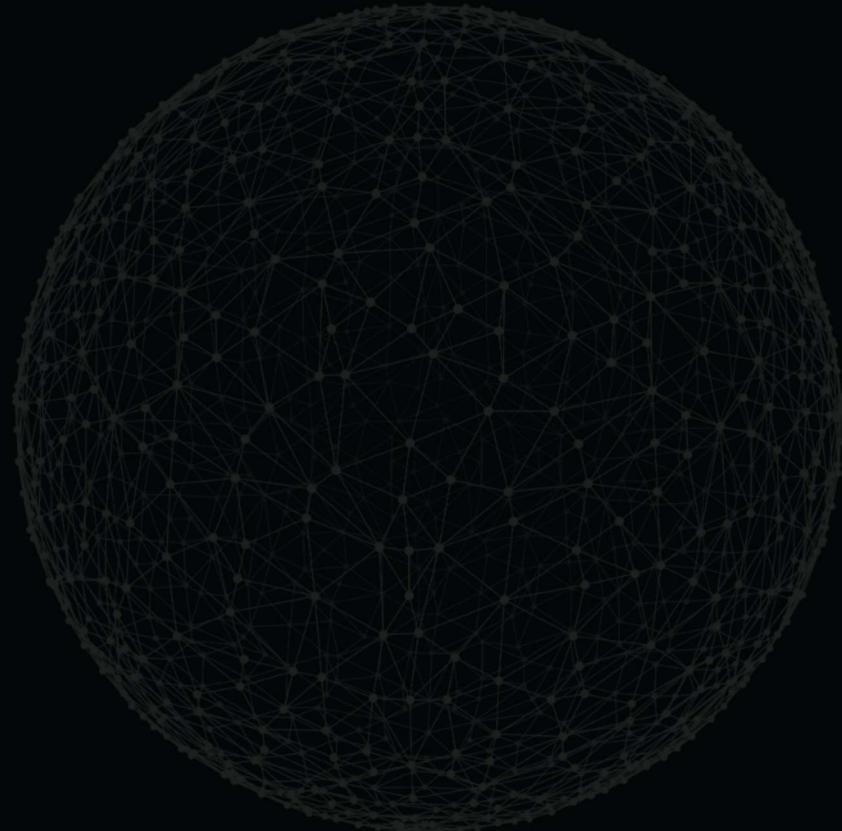
- Captain America: from #4568DC to #B06AB3
- Iron Man: from #e52d27 to #b31217
- Black Widow: from #000 to #61045F
- Spider-Man: from #e52d27 to #000



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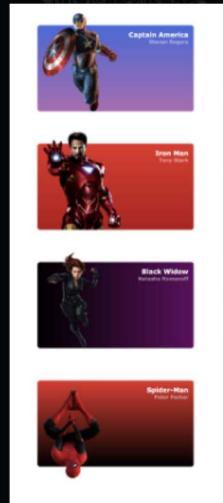
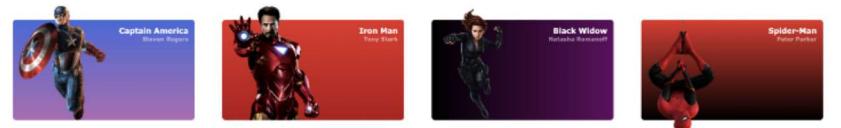
Make sure that when resizing the window, the blocks rearrange and move to the next row (nothing breaks). See the [EXAMPLE](#) images.

Use the images available in resources. But do not forget about optimization. Try to make images as lightweight as possible.



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EXAMPLE**ucode connect****Sprint 00 | Half Marathon Full Stack > 14**

Act Basic: Task 04

NAME

Get into position!

DIRECTORY

t04_get_into_position/

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>

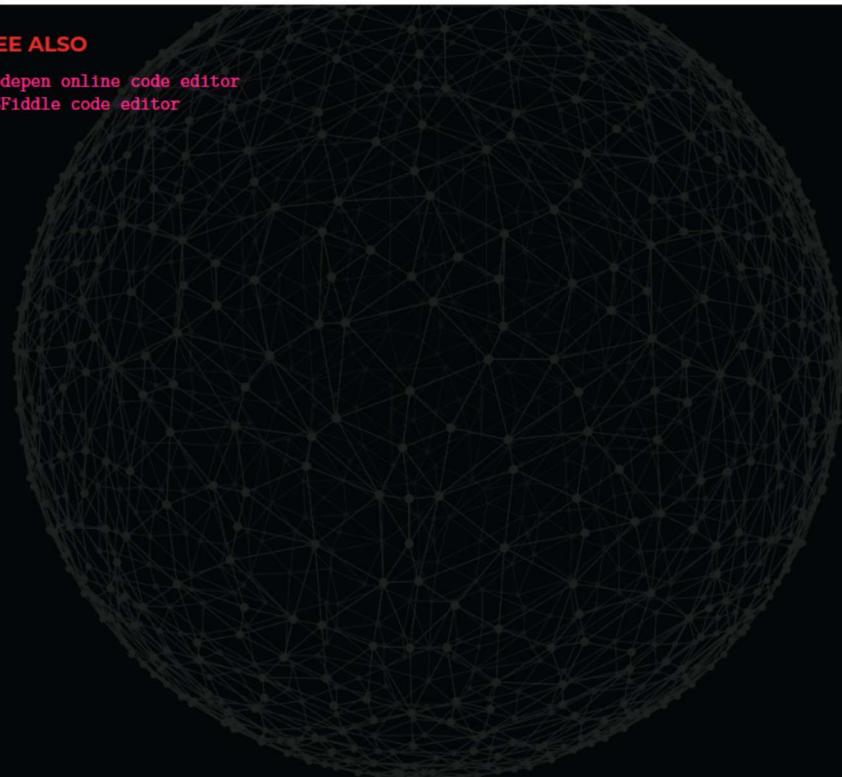
</html>
```

EXAMPLE

DEADPOOL

SEE ALSO

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

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Act Basic: Task 05

NAME

Unicorn

DIRECTORY

t05_unicorn/

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.

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SYNOPSIS

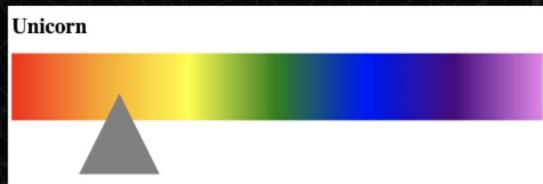
```
<!DOCTYPE html>
<html lang="en">

<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



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Act Advanced: Task 06

NAME

Japan

DIRECTORY

t06_japan/

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>

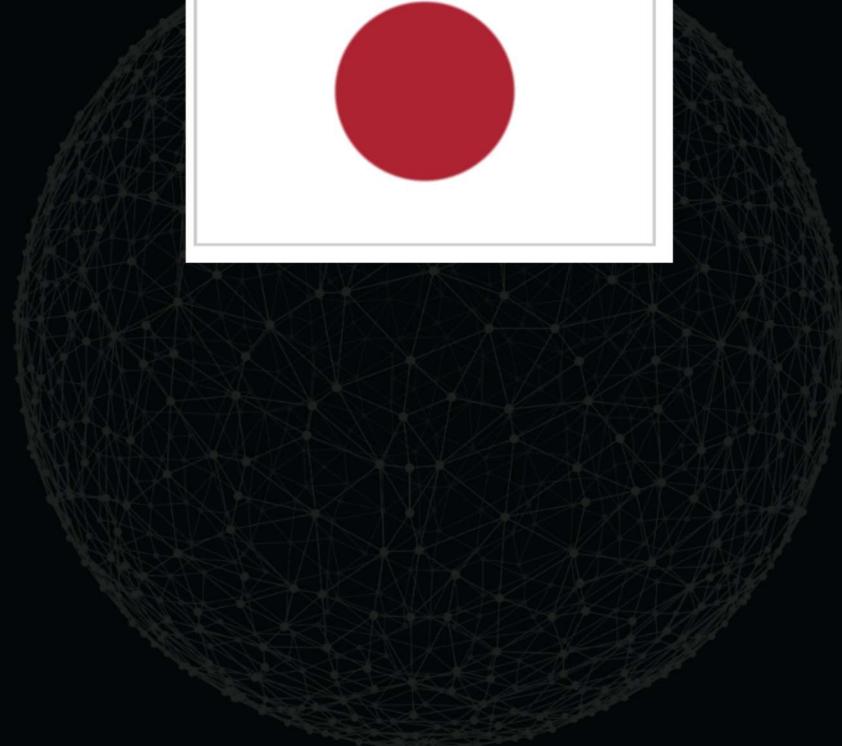
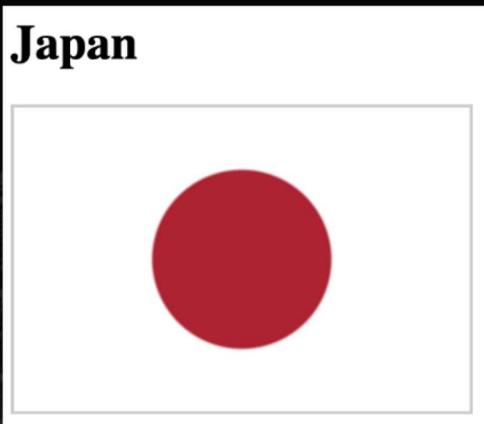
<body>
  <h1>Japan</h1>
  <div class="japan"></div>
</body>

</html>
```

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EXAMPLE



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Act Advanced: Task 07

NAME

Heroic table

DIRECTORY

t07_heroic_table/

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.

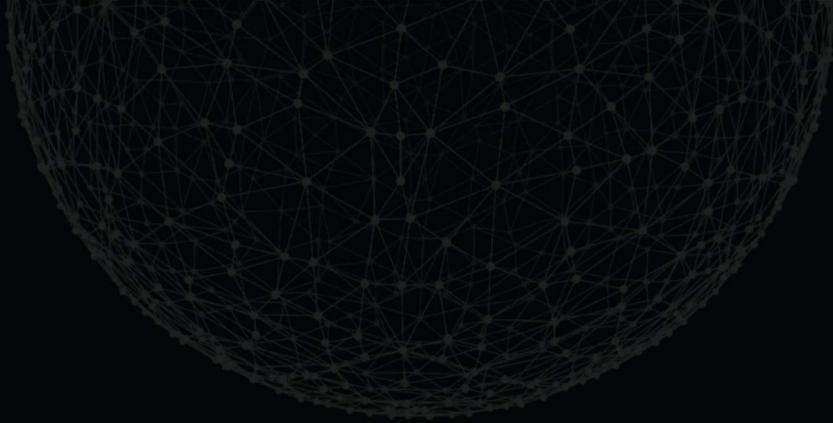


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EXAMPLE**Table**

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	Asgardium/Elder God Hybrid Physiology	80	100	100	
Wolverine	Unbreakable Skeleton	80	40	40	
Wonder Woman	Divine Empowerment	90	100	100	

<superherodb.com>



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Act Advanced: Task 08

NAME

Superhero application

DIRECTORY

t08_superhero_application/

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.

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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: 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



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Act Advanced: Task 09

NAME

Weather

DIRECTORY

t09_weather/

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.



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EXAMPLE**ucode connect**

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Act Advanced: Task 10

NAME

Groot

DIRECTORY

t10_groot/

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="tii. Groot">
  <link rel="stylesheet" href="style.css">
</head>

<body>

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

</body>

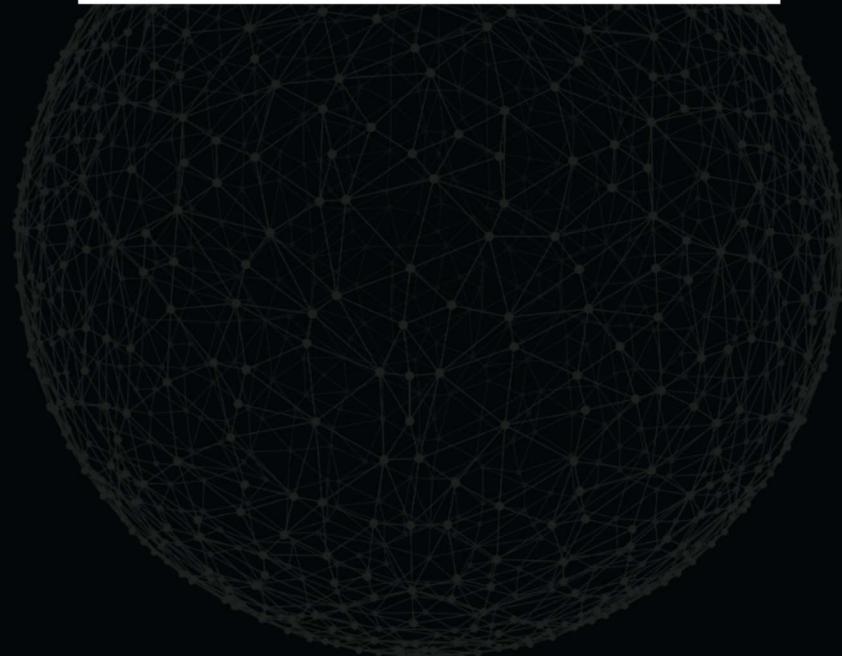
</html>
```

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EXAMPLE**Groot!**

I am Groot!

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Share

PUBLISHING

Last but not least, the final stage of your work is to publish it. It 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 task and better understand 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 (macOS)
- [ScreenToGif](#) – screen, webcam, and sketchboard recorder with an integrated editor (Windows)

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
- [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.



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