

# Sprint 01

Web Frontend SE



July 13, 2020



uCode

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# Engage



## DESCRIPTION

Welcome to the world of web development!

In this **Sprint** 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.

You'll write your own web pages using HTML and CSS. They are the basic building blocks of web development.

Let's get to work!

## BIG IDEA

The World Wide Web.

## ESSENTIAL QUESTION

How to make web pages?

## 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 main 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?
- What types of website layouts do you know?
- What is a hover effect?
- What is a drop-down menu?
- What is the difference between a combo box and a drop-down list?
- How does breadcrumb navigation work?
- What is the benefit of using Grid Layout?
- What are microformats? Why are they worth using?
- What is the difference between a pseudo-element and a pseudo-classes in CSS?

## 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.
- Analyze the markup elements that you see.
- Find out how to link CSS to HTML.
- Find informative resources with HTML and CSS documentation.



- 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.
- Research top technical and non-technical skills of a frontend developer.
- Learn how to achieve cross-browser compatibility.

## 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

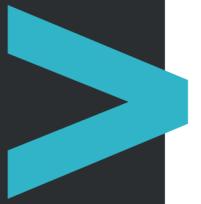
Create an HTML page. Take a look at the **EXAMPLE** image as a reference of what your web page must look like.

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>` tag
  - follows the first h2
  - contains a link
  - contains a segment in bold, and a segment in italics
  - is separated into at least 2 paragraphs with a linebreak in between
- an ordered list with 4 items (superhero names) following the second h2
- an unordered list with 3 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
  - o Robin
  - o Alfred
  - o 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, assets/images/\*

## ALLOWED

HTML

## DESCRIPTION

Create an HTML web page with a table filled with information about the Infinity Stones. There are 4 columns in the table:

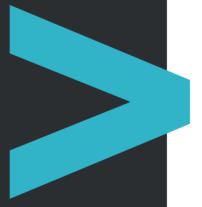
- Name
- Color
- Powers and capabilities
- Image

There are 8 rows:

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

Use the **EXAMPLE** image for a reference of how your web page must look like.

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.



## 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

[HTML Tables](#)

[Marvel:Infinity Stones](#)

# Act: Task 02



## NAME

Infinite style

## DIRECTORY

t02/

## SUBMIT

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

## ALLOWED

HTML, CSS

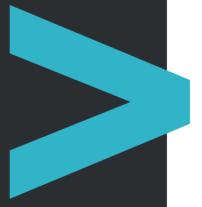
## DESCRIPTION

Create a CSS file that adds style to the table that you have created about the Infinity Stones. Use the HTML file you have from the previous task.

Now that you have a table ready, add some style to it! 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.

Feel free to change your HTML file if you need to.

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

# Act: Task 03



## NAME

Super-Search

## DIRECTORY

t03/

## 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**

Writing text into the input

**Super-Search engine**

Hover over input

**Super-Search engine**

Hover over the button

**Super-Search engine**

# Act: Task 04



## NAME

Japan

## DIRECTORY

t04/

## SUBMIT

style.css

## ALLOWED

CSS

## DESCRIPTION

Create a CSS file for the web page available in the SYNOPSIS.

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>
  <title>Japan</title>
  <meta name="description" content="t04. Japan" charset="utf-8">
  <link rel="stylesheet" href="style.css">
</head>

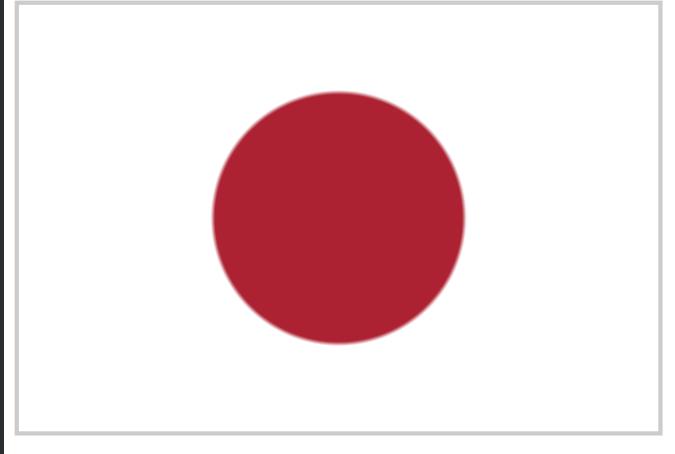
<body>
  <h1>Japan</h1>
  <div class="japan"></div>
</body>

</html>
```



**EXAMPLE**

**Japan**



# Act: Task 05



## NAME

Superhero cards

## DIRECTORY

t05/

## 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:

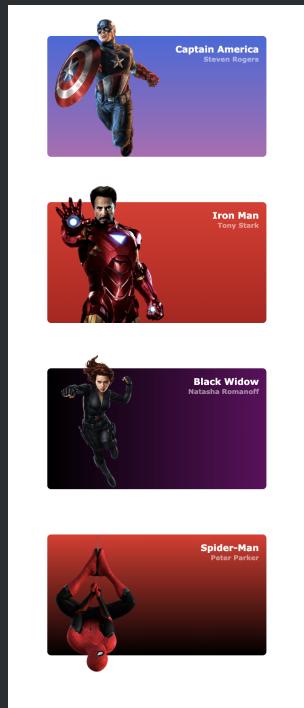
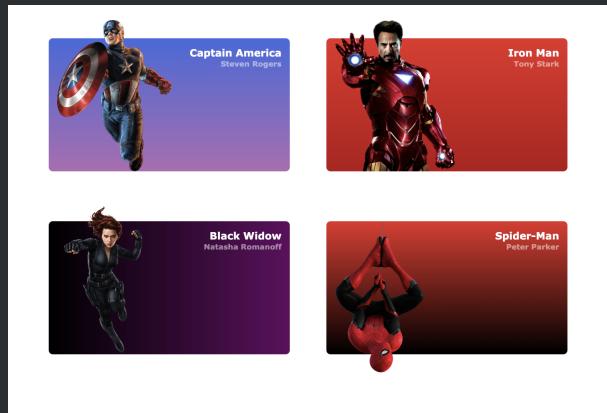
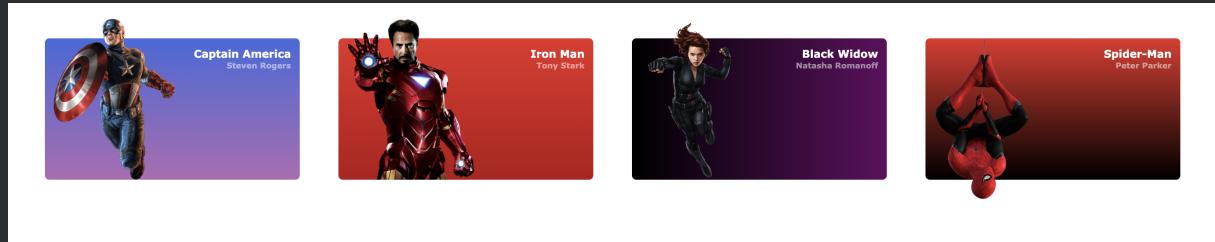
- Captain America: from #4568DC to #B06AB3
- Iron Man: from #e52d27 to #b31217
- Black Widow: from #000 to #61045F
- Spider-Man: from #e52d27 to #000

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 06



## NAME

Get into position!

## DIRECTORY

t06/

## SUBMIT

style.css

## ALLOWED

CSS

## DESCRIPTION

Create a CSS file for the HTML page written in the **SYNOPSIS**. 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>
  <title>Get into position!</title>
  <meta name="description" content="t06. Get into position!" charset="utf-8">
  <link rel="stylesheet" href="style.css">
</head>

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

</html>
```



## EXAMPLE



A red horizontal bar containing the word "DEADPOOL" in white, bold, sans-serif font.

DEADPOOL

## SEE ALSO

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

# Act: Task 07



## NAME

Turn around...

## DIRECTORY

t07/

## SUBMIT

style.css

## ALLOWED

CSS

## DESCRIPTION

Create a CSS file for the web page available in the **SYNOPSIS**. The web page contains an image. Create a hover effect for the image so that it rotates by 30 degrees.

There is an illustration for the effect in the **EXAMPLE** section.

## SYNOPSIS

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

<head>
  <meta charset="UTF-8">
  <title>Turn around...</title>
  <meta name="description" content="t14. Turn around..." charset="utf-8">
  <link rel="stylesheet" href="style.css">
</head>

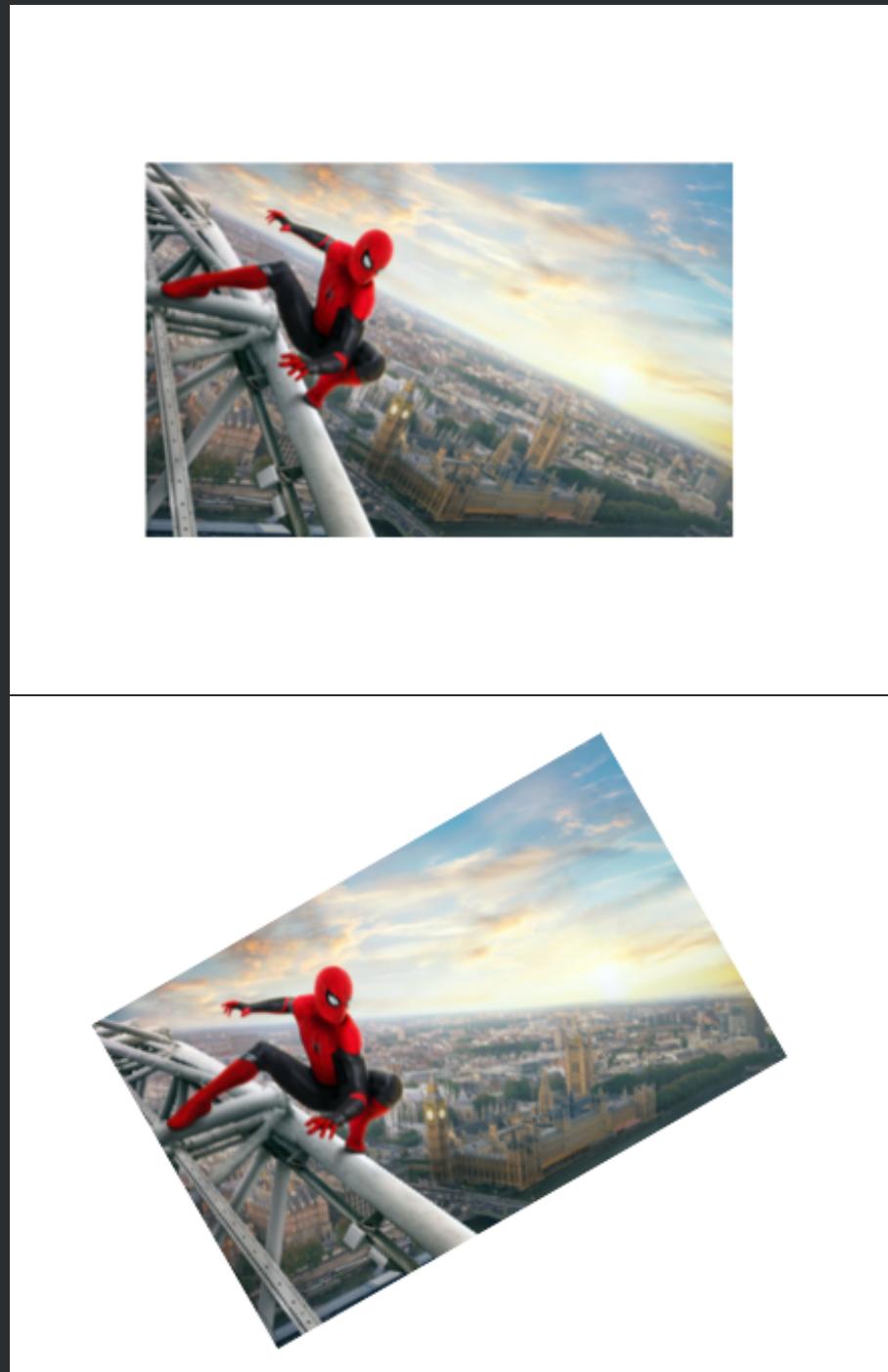
<body>

</body>

</html>
```



## EXAMPLE



## SEE ALSO

[Turn around](#)

# Act: Task 08



## NAME

Heroic table

## DIRECTORY

t08/

## 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), 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).

Regular cells:

- text color: midnightblue
- border: 2px, rgba(189, 195, 199, 0.05)
- padding: 5px for top and bottom, 50px for right and left

Second column and third column cells:

- 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	FALSE	Direct Cybernetic Interface	100	85	70
Spider-Man		Animal Oriented Powers	95	55	65
Superman		Kryptonian Physiology	95	100	100
The Flash	TRUE	Speed Force Conduit	95	50	100
Thor	FALSE	Asgardian/Elder God Hybrid Physiology	80	100	100
Wolverine		Unbreakable Skeleton	80	40	40
Wonder Woman		Divine Empowerment	90	100	100

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

# Act: Task 09



## NAME

Superhero application

## DIRECTORY

t09/

## SUBMIT

index.html, style.css

## ALLOWED

HTML, CSS

## 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 Name  Age

Information about the superhero, max 500 symbols

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](#)

# Act: Task 10



## NAME

bLink182

## DIRECTORY

t10/

## SUBMIT

style.css

## ALLOWED

CSS

## DESCRIPTION

Create a CSS file for the HTML page written in the **SYNOPSIS**. 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>
  <title>bLink182</title>
  <meta name="description" content="t10. bLink182" charset="utf-8">
  <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 11



## NAME

Weather

## DIRECTORY

t11/

## SUBMIT

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

## ALLOWED

HTML, CSS

## 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

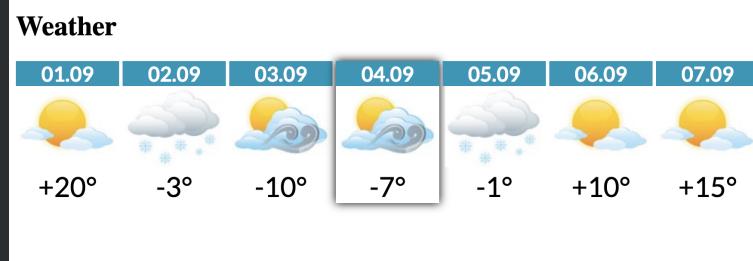
Put all necessary graphics (only .png or .jpg) to `assets/images/`.

See the **EXAMPLE** image.

## EXAMPLE



with hover



# Act: Task 12



## NAME

Groot

## DIRECTORY

t12/

## SUBMIT

style.css

## ALLOWED

CSS

## DESCRIPTION

Create a CSS file for the HTML page written in the **SYNOPSIS**.

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

<body>

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

</body>

</html>
```



## EXAMPLE

**Groot!**

I am Groot!

# Act: Task 13



## NAME

Print-ready

## DIRECTORY

t13/

## SUBMIT

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

## ALLOWED

HTML, CSS

## DESCRIPTION

Create a page with a headline, some text, and an image. The layout must differ slightly depending on whether you're seeing the page from a screen or in print.

See the following example images. This is how your web page must look like. However, pick any image and text you like, as long as the text is long enough to see it wrap around the image.

**Hint:** you don't have to actually print the page to check for the difference in layout. In your browser menu, find and click the button "Print", and you will see a preview of what your web page will look like in print version. Alternatively, you can do it using browser developer tools.



## EXAMPLE

### Screen

#### Franklin Richards



Franklin Richards is the son of Reed and Susan Richards, who are better known as Mister Fantastic and the Invisible Woman of the Fantastic Four, the first modern team of superhuman adventurers. Reed and Susan Richards developed their superhuman powers as a result of exposure to cosmic radiation during a flight in outer space. Their exposure to this radiation also had important consequences for their son, who was born years later.

First, the radiation somehow affected Susan Richards' body in such a way as to give her serious difficulties in giving birth. For unknown reasons, soon before she was to give birth to Franklin, Susan Richards' blood cells were observed to be carrying a strange form of energy that threatened the lives of both herself and the baby. Presumably, this energy effect is linked with Susan Richards' superhuman powers over energy that enable her to become invisible and to create force fields.

With Franklin's birth imminent, Reed Richards and his teammates, the Human Torch and the Thing, journeyed into the anti-matter dimension called the Negative Zone to find the only means known to Mister Fantastic of saving his wife and unborn son: the Cosmic Control Rod wielded by Annihilus, one of its most dangerous inhabitants. Mister Fantastic succeeded in obtaining the Rod and drained energy from it into a special container, which he and his two colleagues then brought to their own dimension. Reed Richards succeeded in using the energy from the Rod in bringing the energy in his wife's womb and finally gave birth to Franklin. The infant was named Franklin Benjamin Richards in honor of his late grandfather, Franklin Storm, and the Richards' best friend, Benjamin J. Grimm. In his early years the sorceress Agatha Harkness acted as Franklin's nanny and protector.

The cosmic radiation that had given Reed and Susan Richards their superhuman powers also resulted in affecting the genetic structure of their son: Franklin was born a mutant. Unlike most superhuman mutants, whose unusual powers do not emerge until the mutant reaches puberty, Franklin began manifesting his superhuman powers at a very early age. In the normal course of events, Franklin's psionic powers would presumably increasingly emerge as he grew older until they reach their full, vast potential when he achieves maturity.

However, this normal process was ruined by Annihilus, who, during a later conflict with the Fantastic Four, placed Franklin within a machine that triggered the release of his full psionic potential. Franklin was too young and inexperienced to control the vast energies building up within him, and Reed Richards feared that his son would be unable to prevent himself from releasing so much psionic energy to destroy all life on Earth. Unable to find another means to deal with the problem in the short space of time left before disaster would strike, Reed was forced to use a device that rendered Franklin comatose, and thus unable to project psionic energy.

### Print

#### Franklin Richards



Franklin Richards is the son of Reed and Susan Richards, who are better known as Mister Fantastic and the Invisible Woman of the Fantastic Four, the first modern team of superhuman adventurers. Reed and Susan Richards developed their superhuman powers as a result of exposure to cosmic radiation during a flight in outer space. Their exposure to this radiation also had important consequences for their son, who was born years later.

First, the radiation somehow affected Susan Richards' body in such a way as to give her serious difficulties in giving birth. For unknown reasons, soon before she was to give birth to Franklin, Susan Richards' blood cells were observed to be carrying a strange form of energy that threatened the lives of both herself and the baby. Presumably, this energy effect is linked with Susan Richards' superhuman powers over energy that enable her to become invisible and to create force fields.

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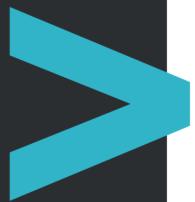
The cosmic radiation that had given Reed and Susan Richards their superhuman powers also resulted in affecting the genetic structure of their son: Franklin was born a mutant. Unlike most superhuman mutants, whose unusual powers do not emerge until the mutant reaches puberty, Franklin began manifesting his superhuman powers at a very early age. In the normal course of events, Franklin's psionic powers would presumably increasingly emerge as he grew older until they reach their full, vast potential when he achieves maturity.

However, this normal process was ruined by Annihilus, who, during a later conflict with the Fantastic Four, placed Franklin within a machine that triggered the release of his full psionic potential. Franklin was too young and inexperienced to control the vast energies building up within him, and Reed Richards feared that his son would be unable to prevent himself from releasing so much psionic energy to destroy all life on Earth. Unable to find another means to deal with the problem in the short space of time left before disaster would strike, Reed was forced to use a device that rendered Franklin comatose, and thus unable to project psionic energy.

## SEE ALSO

[Force Chrome DevTools Into Print Preview Mode](#)

# Act: Task 14



## NAME

It's a match!?

## DIRECTORY

t14/

## SUBMIT

style.css

## ALLOWED

CSS

## DESCRIPTION

Create a CSS file for the HTML page written in the **SYNOPSIS**. Draw a match using CSS only! Don't use any images or photos. The contents of the web page must look as close as possible to the **EXAMPLE** image.

For this task, you will need to research gradients, shadows, transformations (scaling, rotation), z-index, etc.

## SYNOPSIS

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

<head>
  <title>It's a match!</title>
  <meta name="description" content="t07. It's a match!" charset="utf-8">
  <link rel="stylesheet" href="style.css">
</head>

<body>

<h1 id="heading">It's a match!</h1>

<div class="match">
  <div class="fire"></div>
  <div class="top"></div>
  <div class="stick"></div>
</div>

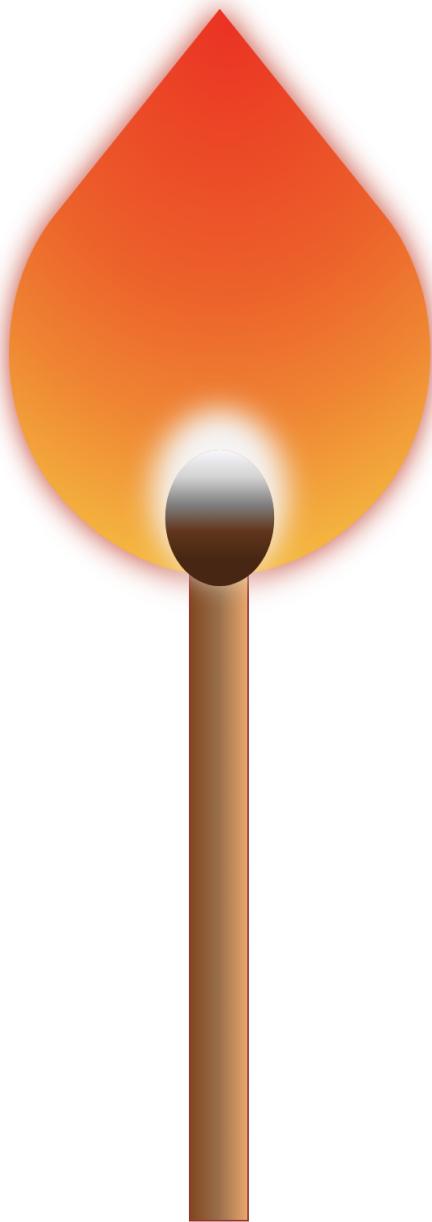
</body>

</html>
```

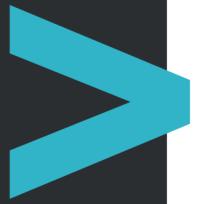


**EXAMPLE**

**It's a match!**



# Act: Task 15



## NAME

The Infinity Gauntlet

## DIRECTORY

t15/

## SUBMIT

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

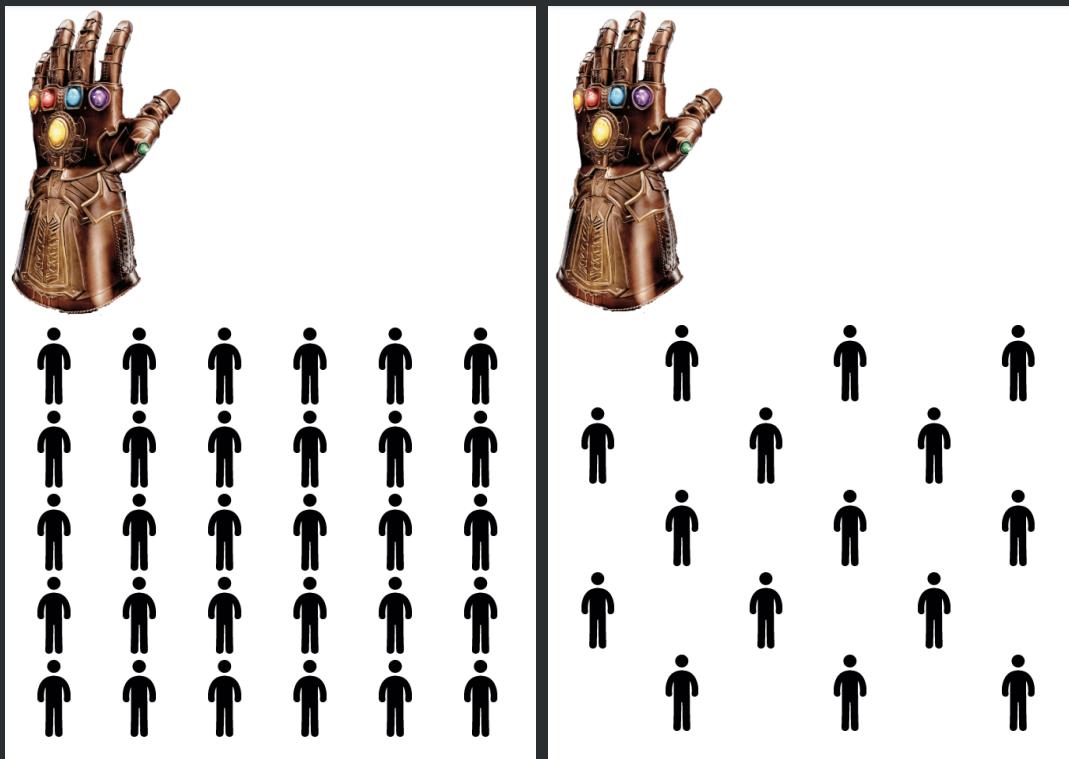
## ALLOWED

HTML, CSS

## DESCRIPTION

Create a web page with 5 rows of person-shaped icons (6 people in each row). Add The Infinity Gauntlet at the top. When hovering over The Infinity Gauntlet, every other person disappears.

## EXAMPLE



## SEE ALSO

Pseudo class nth-child

# Act: Task 16



## NAME

X-Menu

## DIRECTORY

t16/

## SUBMIT

index.html, style.css

## ALLOWED

HTML, CSS

## DESCRIPTION

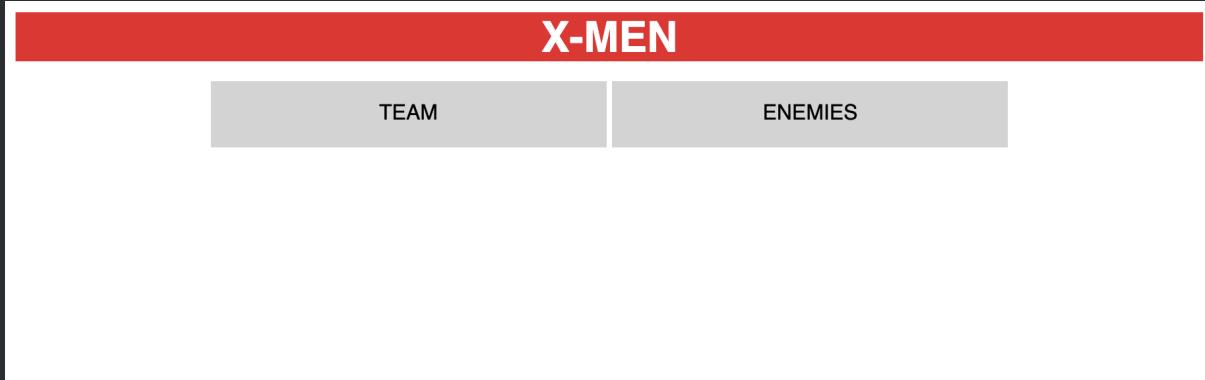
Create a web page with a drop-down menu using HTML and CSS. The menu has 2 first level items that each have at least 2 second level ones, that, in turn, each have at least 2 third level items.

Make your menu fun and exciting. There is an [EXAMPLE](#) available. However, don't copy the text and style of the menu, make it your own.

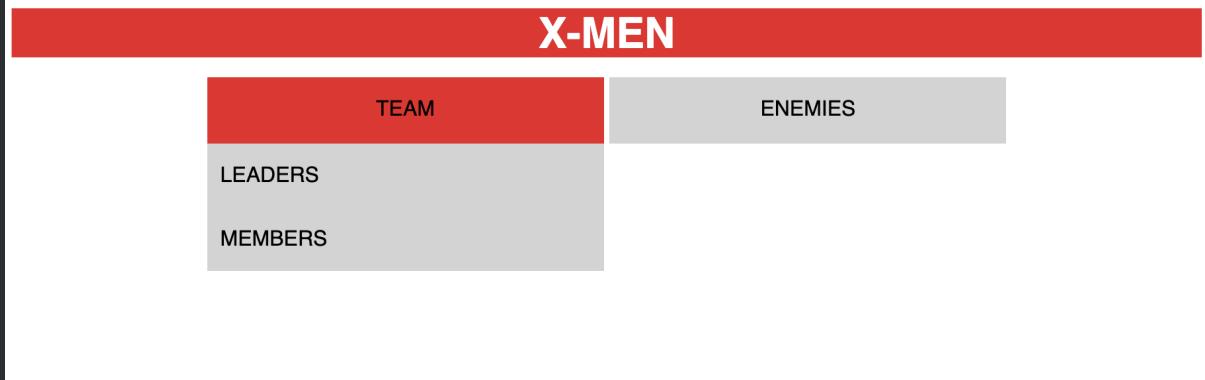


## EXAMPLE

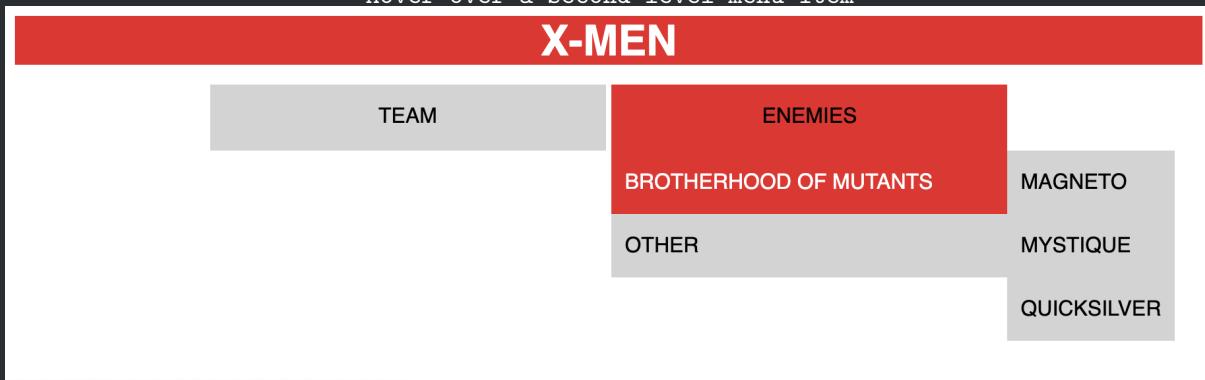
Normal menu appearance



Hover over a first-level menu item



Hover over a second-level menu item



# Act: Task 17



## NAME

Handbook

## DIRECTORY

t17/

## SUBMIT

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

## ALLOWED

HTML, CSS

## DESCRIPTION

Create a Handbook on a single web page. This handbook will contain useful information about HTML, CSS, and Web Protocols).

Implement adaptive layout for different devices, with screen width points at 320, 768 and 1024.

Sections:

- contents of the web page (1 topic - 1 horizontal block) with links to topics and subtopics
- topic HTML - with minimum 30 subtopics of your choice
- topic CSS - with minimum 30 subtopics of your choice
- topic Protocols - with subtopics mentioned below

Each subtopic of HTML and CSS contains:

- a short description
- code example
- view example

The topic of Protocols contains:

- a description
- HTTP/HTTPS - describe each method and all classes of response status codes
- DNS - describe all kind of records
- IP - how to determine an IP address (e.g. google.com, google.com.ua, ucode.world)



## EXAMPLE

**HTML**

**BLOCK ELEMENTS**

**div**  
defines a division or a section in an HTML document  
align,title  
<div>...</div>

**Lore ipsum.**

**h1**  
The h1 to h6 tags are used to define HTML headings  
align  
<h1>Title</h1>

**Title**

**footer**  
Specifies the trailing area (footer) of a document or section.  
---  
<footer>content</footer>

**main**  
specifies the main content of a document  
---  
<main></main>

**HTML**

**BLOCK ELEMENTS**

**div**  
defines a division or a section in an HTML document  
align,title  
<div>...</div>

**Lore ipsum.**

**h1**  
The h1 to h6 tags are used to define HTML headings  
align  
<h1>Title</h1>

**Title**

**footer**  
Specifies the trailing area (footer) of a document or section.  
---  
<footer>content</footer>

**main**  
specifies the main content of a document  
---  
<main></main>

**HTML**

**BLOCK ELEMENTS**

**div**  
defines a division or a section in an HTML document  
align,title  
<div>...</div>

**Lore ipsum.**

**h1**  
The h1 to h6 tags are used to define HTML headings  
align  
<h1>Title</h1>

**Title**

# Act: Task 18



## NAME

Flex search

## DIRECTORY

t18/

## SUBMIT

index.html, style.css

## ALLOWED

HTML, CSS

## DESCRIPTION

Create a web page with the search form from the task 03.  
But, in this case, use a `flexbox` layout.

## EXAMPLE

The screenshot shows a search interface with a title "Flex search" at the top center. Below it is a horizontal input field containing the placeholder "Enter search phrase". To the right of the input field is a small "FIND" button.

## SEE ALSO

[Guide to CSS Flexbox](#)  
[CSS Flexbox](#)

# Act: Task 19



## NAME

Super back-up

## DIRECTORY

t19/

## SUBMIT

index.html, style.css

## ALLOWED

HTML, CSS

## DESCRIPTION

Create a page with a form with checkboxes. See the **EXAMPLE** section for a reference of what your web page must look like. Add a hover effect for the "SEND" button - slowly (over 1 second), change the background color. Font: Source Sans Pro.

## EXAMPLE

**Superhero request form**

**What do you need help with?**

DEFEAT A VILLAIN     SAVE A CIVILIAN     STOP A ROBBERY

PREVENT AN APOCALYPSE     TRAIN A SIDEKICK     OTHER STUFF

Job details

Name \_\_\_\_\_ Email \_\_\_\_\_

**SEND**



## Act: Task 20

### NAME

Circle of life

### DIRECTORY

t20/

### SUBMIT

index.html, style.css

### ALLOWED

HTML, CSS

### DESCRIPTION

Create a page with a green circle that cyclically moves horizontally from one border to another.

Add a hover effect on the circle - its color must change to red over 2 seconds duration.

# Act: Task 21



## NAME

Off the grid

## DIRECTORY

t21/

## SUBMIT

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

## ALLOWED

HTML, CSS

## DESCRIPTION

Create a web page with a grid for 3 screen sizes:

- less than 640
- 640 to 1366
- more than 1366

The grid is made out of 9 comic book panels. You can find the panels in the resources. Using a grid layout, recreate the web page shown in the EXAMPLE images. These images illustrate how the panels are positioned in 3 different screen widths (from largest to smallest).

Your web page must look identical to the images. Pay close attention to how the panels are arranged, how the columns and rows are aligned, whitespace in between, image height, etc.

Keep in mind that there are many different ways to achieve the same result. Play around with various ways of adjusting a CSS grid.

## SEE ALSO

[A Complete Guide to Grid](#)  
[Basic Concepts of grid layout](#)  
[CSS Grid Layout](#)  
[Comic Action Comics \(1938\), Issue #882](#)



## EXAMPLE

### Off the grid





## Off the grid



## Off the grid



# Act: Task 22



## NAME

Settings

## DIRECTORY

t22/

## SUBMIT

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

## ALLOWED

HTML, CSS

## DESCRIPTION

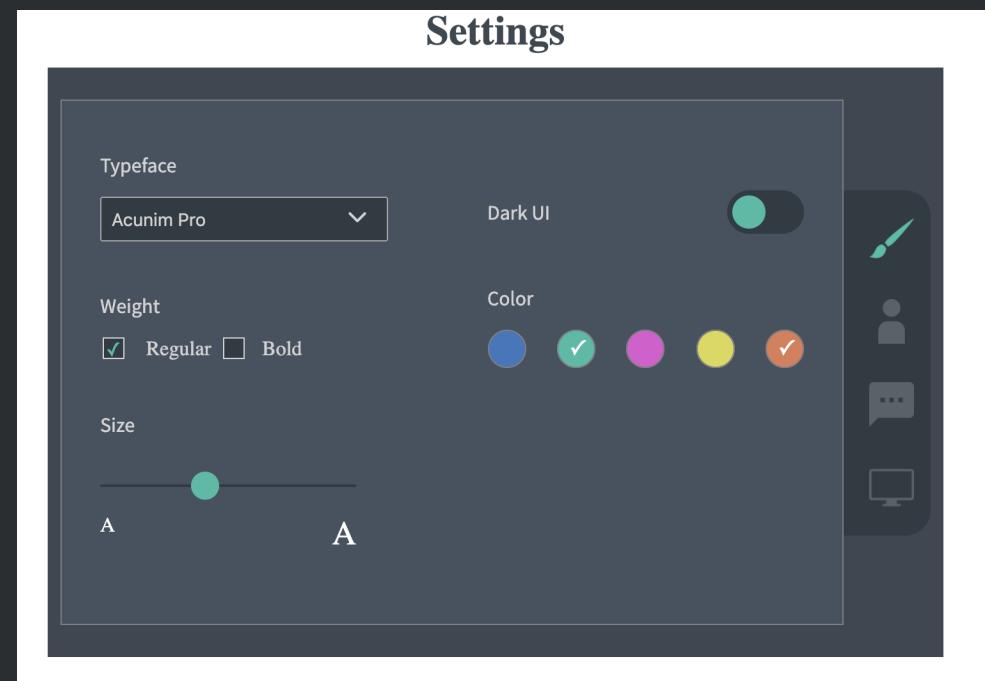
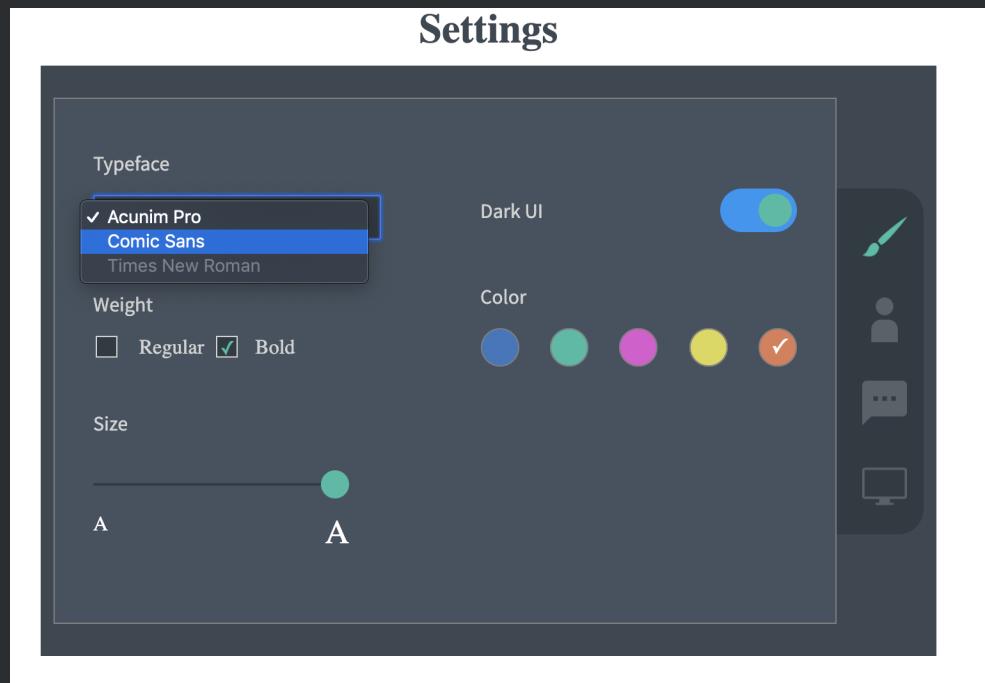
Create a web page with a form for application settings.

Elements on the page:

- select a typeface - select box with fonts (combobox)
- toggle dark UI - animation switch with different visuals for on/off
- pick a color - checkboxes
- right side menu - not active
- select font weight - checkbox to choose font weight
- adjust font size - slim range slider for choosing font size



## 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.