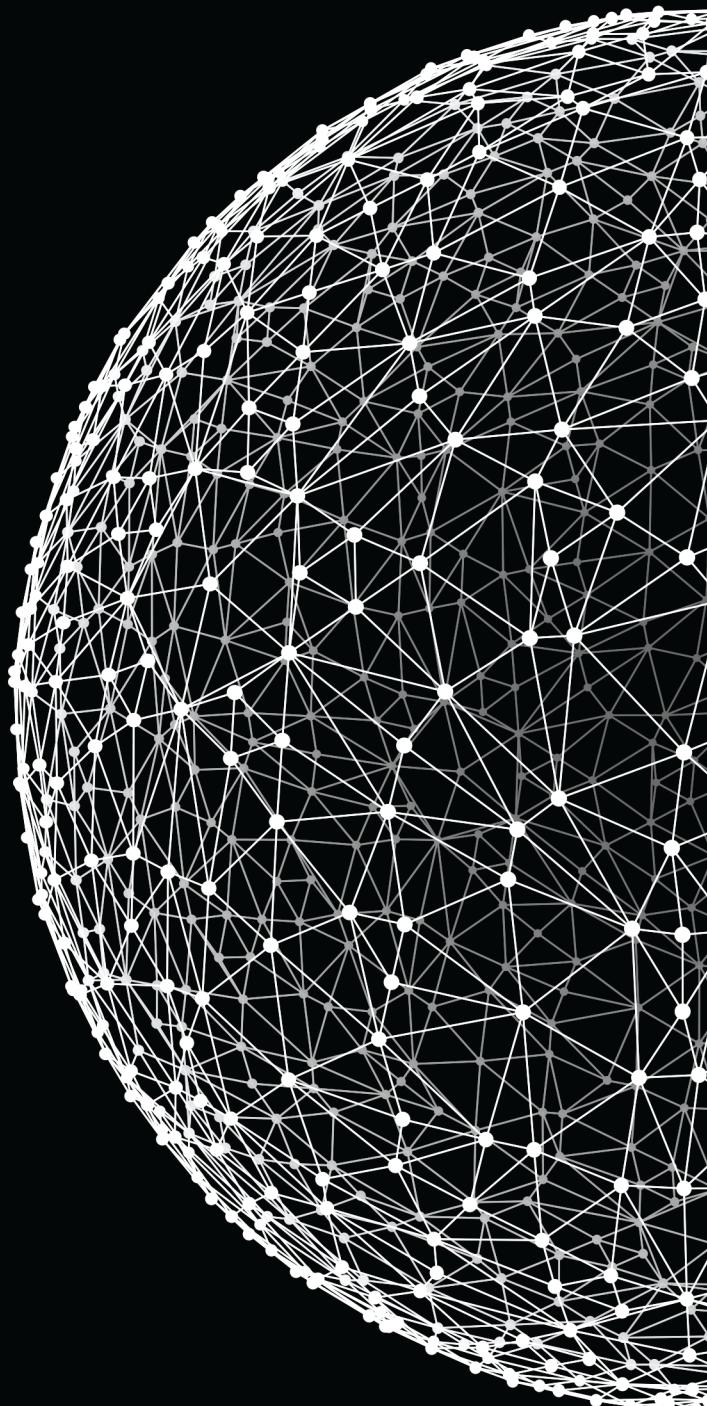


Sprint 01

Half Marathon Web

January 29, 2021



ucode connect

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Engage

DESCRIPTION

Congratulations on completing the first **Sprint** of the **Half Marathon**. You have learned the basics of HTML and CSS. It's time to build upon and improve that knowledge.

Today you will practice frontend development, also known as client-side development. This concerns the way that users interact with a web resource. It's the job of a frontend web developer to create a responsive, intuitive and user-friendly interface that works on any platform, browser, or device.

There isn't one correct way of designing frontend. Finding tools and layouts that fit a particular project best is a complex and creative process.

In this **Sprint**, you will implement some more advanced features of HTML and CSS, and use them in frontend development.

Good luck!

BIG IDEA

Frontend web development.

ESSENTIAL QUESTION

What skills does a frontend developer need?

CHALLENGE

Acquire skills necessary to produce awesome layouts.

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.

- How was your experience completing Sprint00?
- What non-technical skills should a frontend developer have?
- 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 are the advantages and disadvantages of using breadcrumbs?
- What is the benefit of using Grid Layout?
- What are microformats?
- Why are microformats worth using?
- What are CSS pseudo-classes?
- 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.

- Research top technical and non-technical skills of a frontend developer.
- Analyse most effective web development tools for productive work.
- Find informative resources with HTML and CSS documentation.
- Organize your workspace and clear your mind for web development.
- Get inspired by some modern and cool-looking websites.
- Learn how to achieve cross-browser compatibility.
- Investigate what factors should be considered while designing a website.
- Think about gained information and identify key factors of frontend development.
- Clone your git repository issued on the challenge page in the LMS.
- Employ the full power of P2P by brainstorming with other students.
- Try to implement your thoughts in code.

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

Print-ready

DIRECTORY

t00/

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 body to term and safely 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.

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SEE ALSO

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

Act: Task 01

NAME

Turn around...

DIRECTORY

t01/

SUBMIT

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

ALLOWED

CSS

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.

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="t01. Turn around...">
    <link rel="stylesheet" href="style.css">
</head>

<body>
    
</body>

</html>
```

EXAMPLE



SEE ALSO

[Turn around](#)

Act: Task 02

NAME

The Infinity Gauntlet

DIRECTORY

t02/

SUBMIT

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

ALLOWED

HTML, CSS

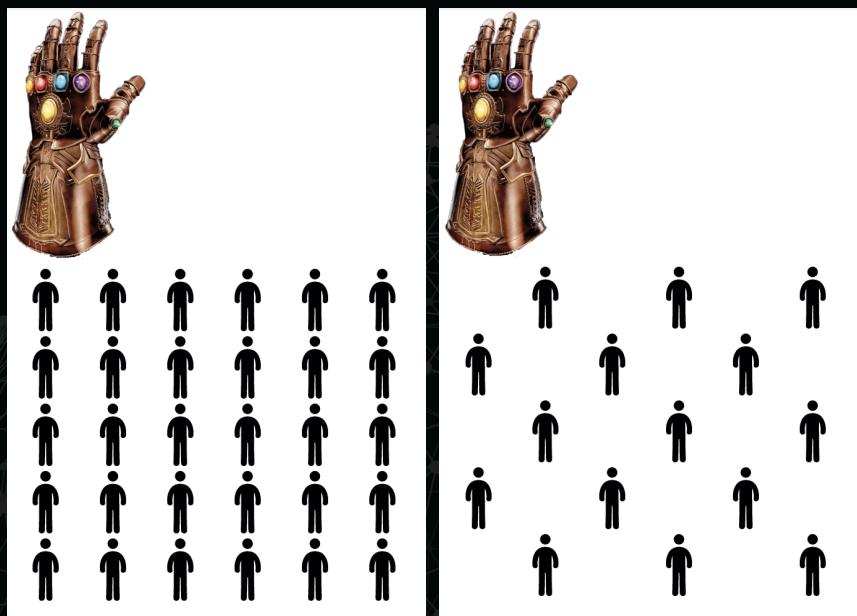
LEGEND

The Infinity Gauntlet is one of the most powerful objects in the Universe. It was designed to hold six of the soul gems, better known as the Infinity Gems. When used in combination, their already impressive powers make the wearer able to do anything they want.

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 03

NAME

X-Menu

DIRECTORY

t03/

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

X-MEN

TEAM ENEMIES

LEADERS

MEMBERS

Hover over a second-level menu item

X-MEN

TEAM ENEMIES

BROTHERHOOD OF MUTANTS MAGNETO

OTHER MYSTIQUE

QUICKSILVER

Act: Task 04

NAME

Handbook

DIRECTORY

t04/

SUBMIT

index.html, style.css

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 10 subtopics of your choice
- topic CSS - with minimum 10 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)

You can either use image files (and put them into `assets/images/*`, or use links to images online).

EXAMPLE

HTML			
BLOCK ELEMENTS			
<pre>div defines a division or a section in an HTML document align,title <div>...</div></pre> <p>Lorem ipsum.</p>	<pre>h1 The h1 to h6 tags are used to define HTML headings align <h1>Title</h1></pre> <p>Title</p>	<pre>footer Specifies the trailing area (footer) of a document or section. --- <footer>content</footer></pre>	<pre>main specifies the main content of a document --- <main></main></pre>
HTML			
BLOCK ELEMENTS			
<pre>div defines a division or a section in an HTML document align,title <div>...</div></pre> <p>Lorem ipsum.</p>	<pre>h1 The h1 to h6 tags are used to define HTML headings align <h1>Title</h1></pre> <p>Title</p>	<pre>main specifies the main content of a document --- <main></main></pre>	
HTML			
BLOCK ELEMENTS			
<pre>div defines a division or a section in an HTML document align,title <div>...</div></pre> <p>Lorem ipsum.</p>	<pre>h1 The h1 to h6 tags are used to define HTML headings align <h1>Title</h1></pre> <p>Title</p>		

Act: Task 05

NAME

Flex search

DIRECTORY

t05/

SUBMIT

index.html, style.css

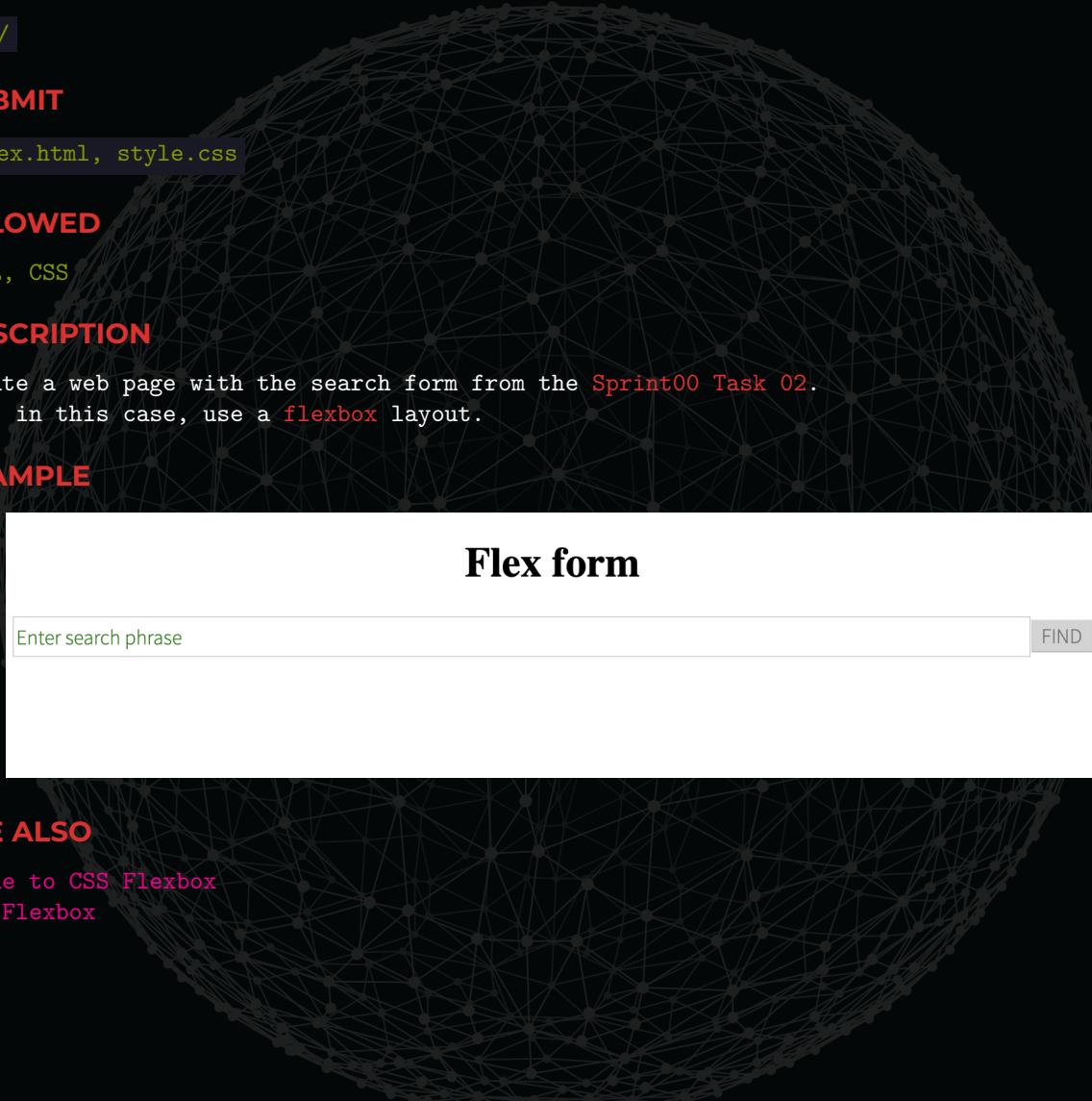
ALLOWED

HTML, CSS

DESCRIPTION

Create a web page with the search form from the Sprint00 Task 02.
But, in this case, use a **flexbox** layout.

EXAMPLE



Flex form

 FIND

SEE ALSO

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

Act: Task 06

NAME

Super back-up

DIRECTORY

t06/

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 07

NAME

Oscorp

DIRECTORY

t07/

SUBMIT

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

ALLOWED

HTML, CSS

DESCRIPTION

Oscorp has made a big name for itself by creating the Green Goblin, Electro, some nice radioactive spiders, and other monstrosities. It's time for Oscorp to expand its horizons and get an online store running.

Create two web pages for an online store - one of the catalog of the store (index.html), and one page for a particular product (card.html).

It's entirely up to you, what your store is selling.

Catalog:

- Blocks:
 - header (logo, title, search, telephone, menu)
 - breadcrumbs
 - filtering and selected filters, filtering with a checklist and a slider
 - a list of products
 - pagination
 - footer
- Product:
 - image of the product
 - title
 - price
 - availability
 - buy button
 - on click of any product - open the product page

Product page:

- Blocks:

- header (logo, title, search, telephone, menu)
- breadcrumbs
- product (photo, title, price, availability, buy button, properties, comments)
- footer

Requirements:

- adaptive layout for mobile and desktop, points: 768, 1024
- MicroFormats
- base SEO requirements

Describe all styles in a CSS file.

EXAMPLE

Catalog

Chance of Lethal Effect

- Unlikely (0-20%)
- Mild (20-40%)
- Moderate (40-60%)
- Likely (60-80%)
- Certain (80-100%)

Price

RADIOACTIVE SPIDER
3499.99\$
not available

BUY

COGLIN PUMPKIN BOMB
214.50\$
available

BUY

GOBLIN GLIDER
9200.00\$
available

BUY

RADIOACTIVE SPIDER
3499.99\$
not available

BUY

OSCORP about service contact Search Phone: 5551234567

Home / Catalog / Product

Radioactive Spider



RADIOACTIVE SPIDER
3499.99\$
available

BUY

Description
Quantity
Weight
Eyes
Effect

1
1/2 pound
red
gives powers

Peter
Really changed my life! Would recommend.

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Home / Catalog / Product

Radioactive Spider



RADIOACTIVE SPIDER
3499.99\$
available

BUY

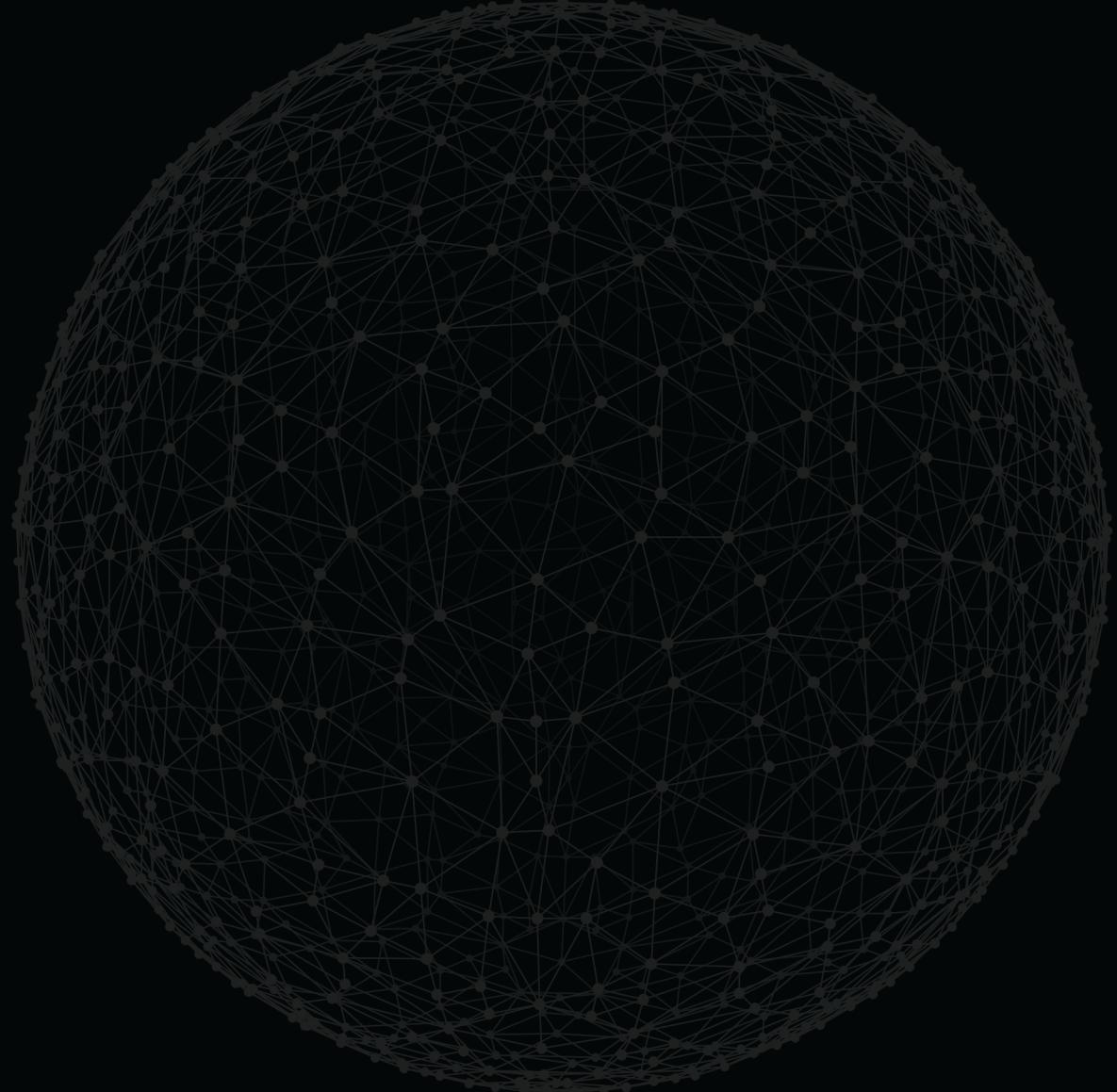
Description
Quantity
Weight
Eyes
Effect

1
1/2 pound
red
gives powers

Peter
Really changed my life! Would recommend.

SEE ALSO

[Grid](#)
[MicroFormats](#)
[SEO](#)



Act: Task 08

NAME

Circle of life

DIRECTORY

t08/

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 09

NAME

Off the grid

DIRECTORY

t09/

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).

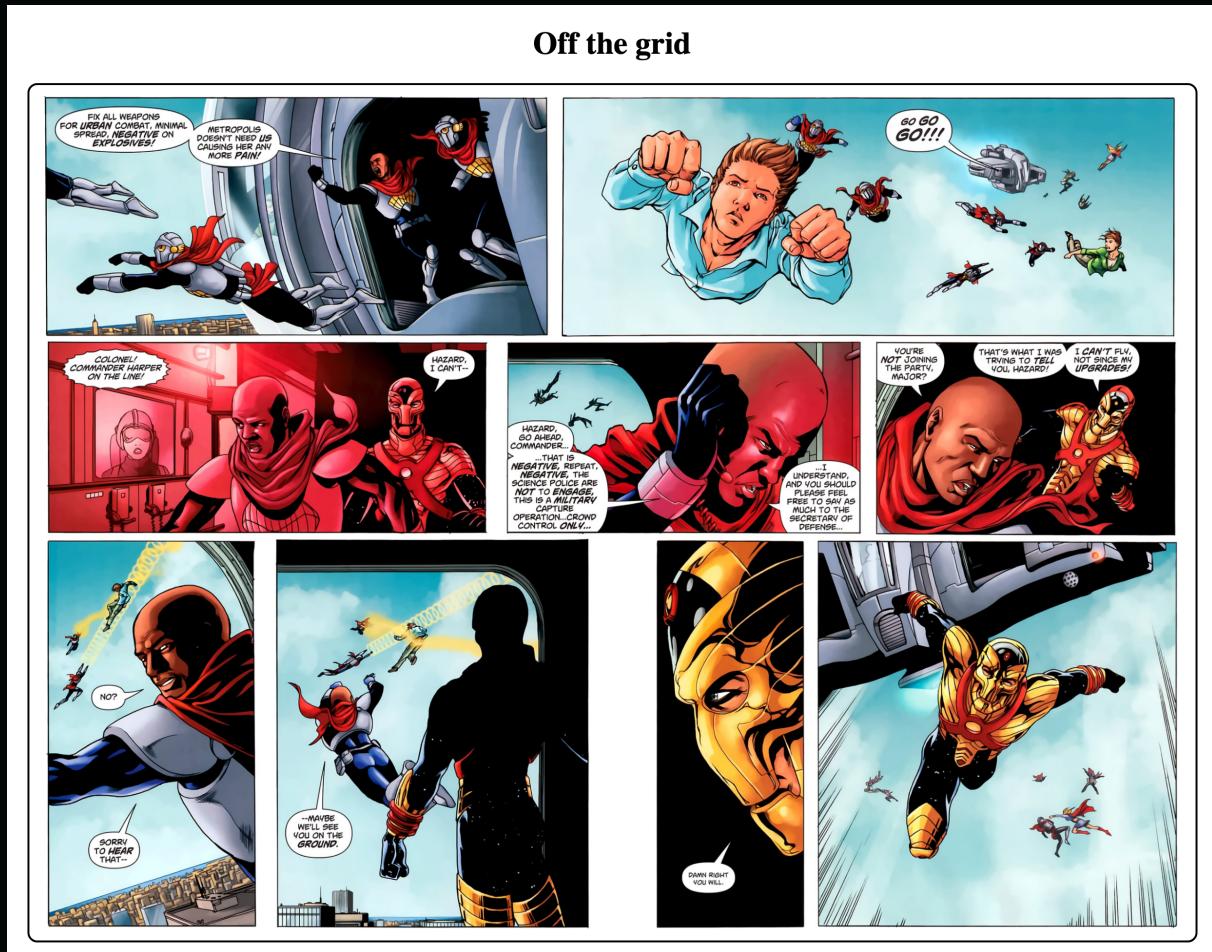
Your web page must look identical to the images. Pay close attention to how the panels are arranged, how the columns and rows are aligned, whitespace in between, image height, etc.

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



Act: Task 10

NAME

Settings

DIRECTORY

t10/

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

The image displays two screenshots of a mobile application's settings screen, illustrating different states of UI elements.

Screenshot 1 (Top):

- Typeface:** A dropdown menu with three options: "Acunim Pro" (selected), "Comic Sans" (highlighted with a blue border), and "Times New Roman".
- Weight:** A toggle switch for "Regular" is off (gray), and a toggle switch for "Bold" is on (green checked).
- Size:** A horizontal slider with a green circular handle positioned halfway between two "A" text labels.
- Dark UI:** A toggle switch is on (green checked).
- Color:** A row of five colored circles: blue, teal, magenta, yellow, and orange. The orange circle has a green checkmark inside it.
- Side Panel:** A vertical sidebar on the right contains icons for a paintbrush, user profile, message bubble, and monitor.

Screenshot 2 (Bottom):

- Typeface:** A dropdown menu with "Acunim Pro" selected and a downward arrow icon.
- Weight:** A toggle switch for "Regular" is on (green checked), and a toggle switch for "Bold" is off (gray).
- Size:** A horizontal slider with a green circular handle positioned halfway between two "A" text labels.
- Dark UI:** A toggle switch is off (gray).
- Color:** A row of five colored circles: blue, teal (with a green checkmark), magenta, yellow, and orange (with a green checkmark). The teal and orange circles have green checkmarks inside them.
- Side Panel:** A vertical sidebar on the right contains icons for a paintbrush, user profile, message bubble, and monitor.

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.