

Test Project

Web Technologies

Speed Test

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Introduction

In this module, you are given 3 hours to complete mini tasks. There are 5 parts of mini tasks, they are design, layout, front-end development, back-end development and content management system.

You do not need to do all of the mini tasks. You will received instruction on which tasks that is required during competition.

Part A: Website Design

A1: Blur Picture Image (Easy)

Given a picture image, please use graphical software to make this on greyscale, put a blur effect, and save as a1.jpg.

A2: Transparent Background (Easy)

Given an image on format jpg. Please use graphical software to turn the background into transparent, and save as a2.png.

A3: Pattern (Easy)

Make a background image with any line pattern that repeat every 100x100 pixels, and save with 1920x1080 px as result.jpg.

A4: Loading GIF (Normal)

Create a GIF animation with a word "Loading" that appears on the left edge of image and moves outside of the right edge of image. The animation should be within 3 seconds to complete.

A5: Walking Gif (Normal)

Create a GIF animation from the given walk.gif file, so that the character moves in from the left edge of image and moves right and moves out of the right edge of screen.

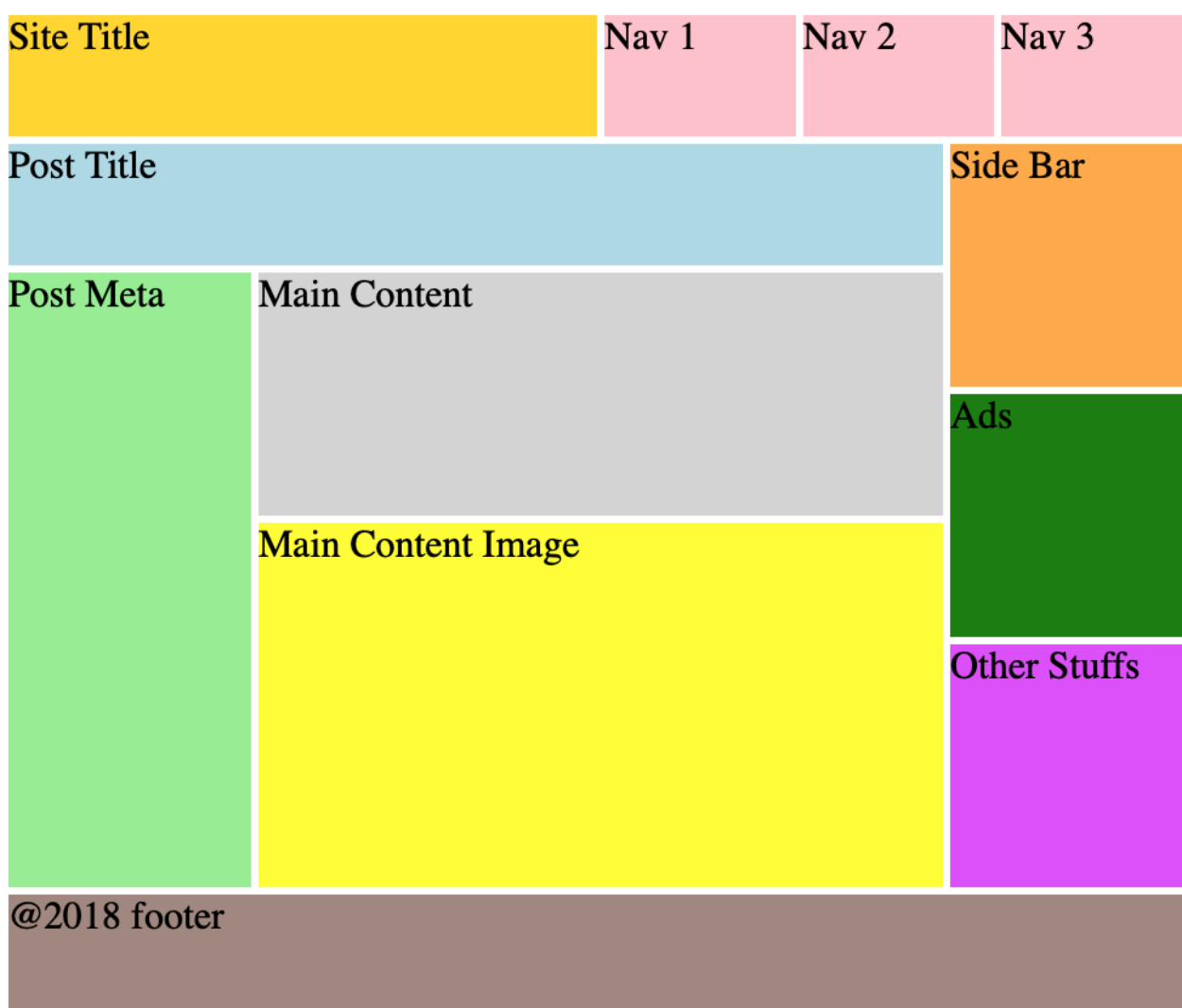
Part B: Layout

B1: HTML tags (Easy)

A customer wants you to make his writings into HTML so that it displays well in web browser. He has written the text. Your job is to use HTML to define the content for web browser to properly display it. Please consider semantic tags and accessibility.

B2: CSS Grid (Normal)

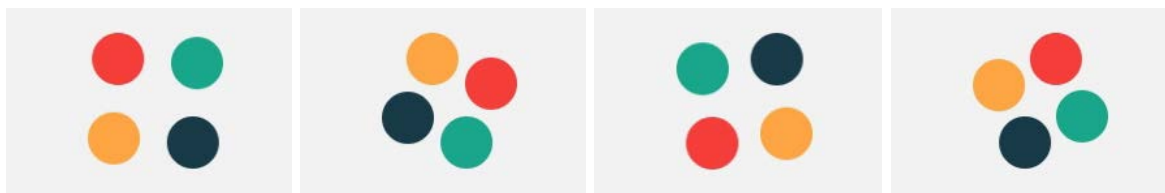
Please implement the following layout in CSS grid.



B3 Loading Screen (Normal)

Create an animated loader using only HTML and CSS same as video.mp4. The loader animation should be looped. 4 different colors (#19A68C, #F63D3A, #FDA543, #193B48) should be used.

Screen shots:



B4 Toggle (Normal)

To create an IOS Toggle switch using HTML and CSS only. View video for animation details.



B5 Yellow Square (Easy)

Make an animation that starts with a big yellow square, and this square turns a small red circle, the animation needs to be centered on the view and the animation needs to loop;

B6 Triangle (Easy)

Make a blue equilateral triangle on the center of the view, and animate this to transform a yellow square. the animation needs to be fluid and loop infinite;

B7 Grayscale image (Easy)

- Turn the image on grayscale, and when hover the mouse, the image need to be color with a transition;

B8 Jumper Ball (Easy)

- Make a loop animation of a jumper ball respecting all states from a animation (only css);

B9: HTML/CSS – Contact Form (Normal)

An HTML and CSS implementation of a not yet finished form are given.

Modify the CSS and HTML so that the form looks as depicted in the screenshot in the media files.

It's responsive behaviour should follow the screencast in the media files.

The use of JavaScript is NOT allowed.

B10: Border Radius & Box Shadow (Easy)

Create a page that contains a 400px rectangle in the middle.

Inside the rectangle there is a settings panel with inputs, where you can setup the rectangle's Border radius, and box shadow properties. The rectangle's css updates on input changes.

B11: Race track (Normal)

By using HTML and CSS, create a race track animation in the form of "8" (vertically or horizontally), along which the car will endlessly animated.

B12: Video player interface (Normal)

Create video player interface: search form, browse screen, action buttons (play, mute, and volume), progress slider, playlist (one item from playlist must be active), information about the video (title, description, number of views), comments (not less than 5) (and 1 attached comment).

B13: Gradient animation (Easy)

By using HTML and CSS, create a gradient shift animation on the page. The gradient may move into any direction.

B14: Modern layout (Easy)

Your task is to create the following layout, the posts' width is $\frac{1}{3}$ of the container's on desktop screen size ($\geq 1440\text{px}$) and full width below this.

Blog posts

Hello title

Lorem ipsum dolor sit amet. Libra dolo fabra milo, amer. Lorem ipsum dolor sit amet. Libra dolo fabra milo, amer. Lorem ipsum dolor sit amet. Libra dolo fabra milo, amer.

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Hello title

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[Read more](#)

Hello title

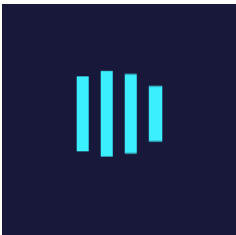
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[Read more](#)

Part C: Front-End Development

C1: Loading Animation (Normal)

We want to create the following CSS loading animation.



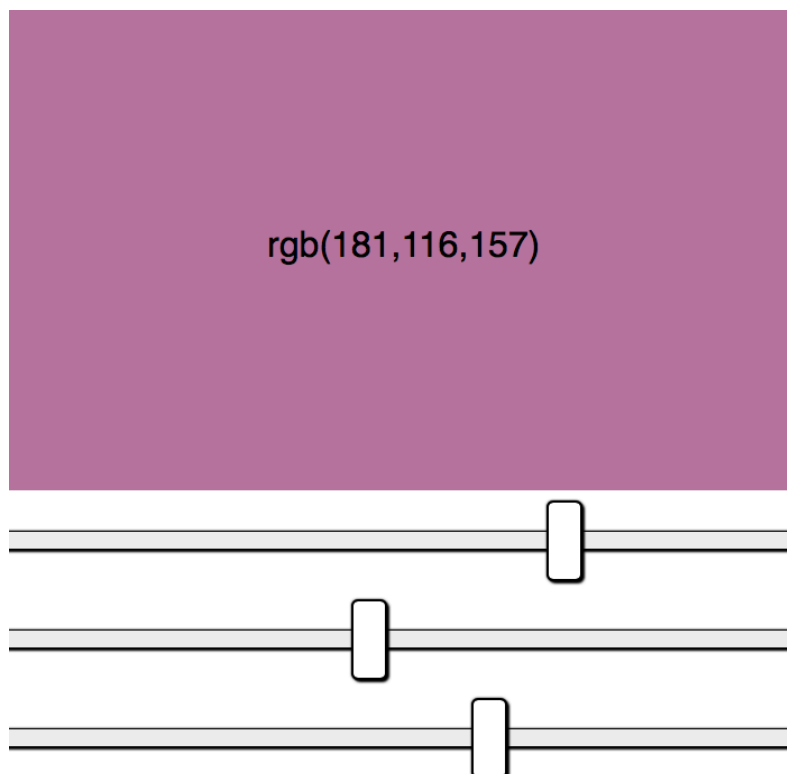
C2: Drawing Canvas (Normal)

Please try to use canvas to build a drawing pad with the following features:

- Basic drawing with mouse down and move
- 3 color switching

C3: RGB Slider (Normal)

Please implement an RGB slider as following. There are 3 sliders for adjusting values of red, green and blue.



C4: JS – Calculation (Easy)

Implement the function that calculate the sum of the squares of the odd numbers in a given array.

C5: List of expenses: (Easy)

- a. Create a form with two fields called: **Spending name** and **Cost** and an **add** button.
- b. Using JavaScript, perform the following functions:
 1. Get the values of the fields.
 2. Validate the entry of the data, if the fields are empty, print the message "There was an error", otherwise print "Correct".
 3. Remove the expanded message and the data entered in the form after 3 seconds.
 4. The data after being entered, must be shown in an ordered list using the HTML tags.

* No resources are provided.

C6: Canvas Animation (Easy)

Draw a circular figure in a container of 320px height and 400px width using canvas. When the browser window reloads, the circular object must move from left to right continuously.



C7: Smiley (Normal)

Create a big smiley face on the center of the page. It is 400px wide, and rectangular. Below the smiley, there are 3 buttons with texts: “:), “:|”, and “:(“. By clicking the buttons the smiley face changes to that state with a 0.5s animation. By default the smiley is in “:|” state. The states have these designs:



C8: Array Integers (Easy)

Given an array that contains integers, rearrange on crescent order only in the positives integers, keeping the negatives on the same position (console the new array rearranged);

C9: Following cursor (Easy)

You have a div on the screen. make the div follows and be centered of accord a cursor position in the window;

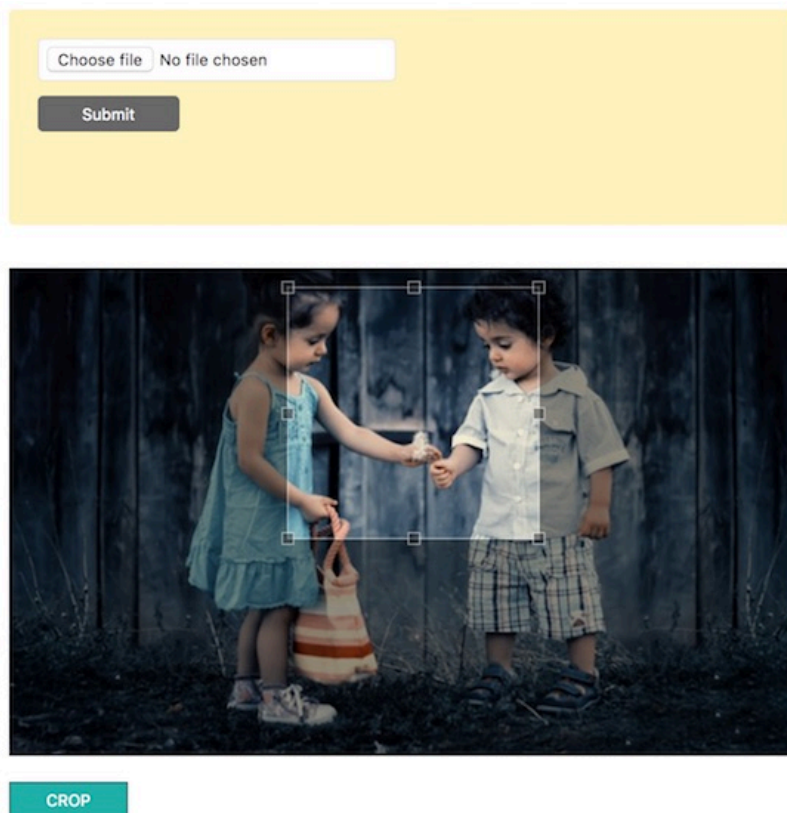
Part D: Back-End Development

D1: PHP Array (Easy)

Given the code with some PHP arrays in media files, please implement a PHP function that compare the given two arrays and return a new array that contains the common elements from both given arrays.

D2: File manager (Normal)

Create a file manager to view the file system, delete files and folders, edit files and save them.



D3: A Pagination Code (Normal)

After reading data.json, the data in the current page must be shown..

5 data must be shown in one page.

5 page links to move to another page must be shown in one page

Create buttons to move 5 pages at once, previous and next.

Page link of current page must be located in the center

Take a look at the provided screen shots and data.json.

You can only use HTML & CSS & PHP, but for reading json data and the pagination code must use only PHP. You can use bootstrap and JavaScript is not allowed.

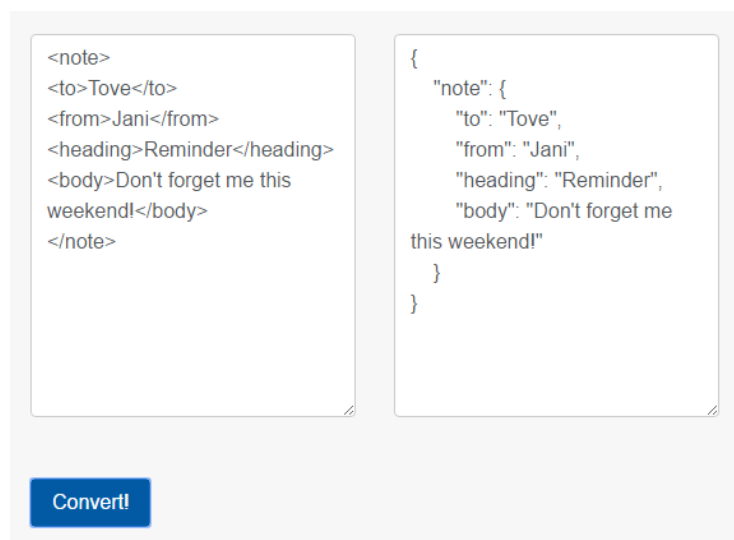
Screen shots:



D4: XML2JSON Converter (Normal)

Create a simple xml to json convertor using pure PHP(See the example.xml).

Screen shot:



D5: Remove duplicates (Easy)

Given an array, remove the duplicate values, and show the new array;

Marking Scheme

SECTION	CRITERION	JUDGEMENT MARKS	MEASUREMENT MARKS	TOTAL
A1	Design	0	5.2	5.2
A2	Layout	0	14.8	14.8
A3	Front-end	0	9.6	9.6
A4	Back-end	0	5.8	5.8