

## HTML & CSS

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### 1. (2 points)

What is HTML used for? What is CSS used for? Why two different languages?

id id  
class  
id id  
button

### 2. (2 points)

Write down a simple HTML document that includes/references external CSS and JavaScript. In the document you should have a title, a heading, some text, an image, and a button.

Before starting to write the HTML, read the next two questions. It might be useful.

### 3. (2 points)

Write down a CSS file that styles all elements in the HTML page you came up with in the previous question. Explain what your stylesheet does. Try to be specific in your explanation.

## JavaScript

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### 4. (2 points)

Earlier you defined HTML for a page that had a button and an image. Now write JavaScript which gives the page this interactivity:

*When the button is clicked, the picture gets hidden. Clicking again shows the picture. And so on.*

#### Hints:

Both vanilla JavaScript and jQuery are fine.

If you reference an HTML element from JavaScript, you can access and modify its CSS properties for instance in this way:

```
elemRef.style.display = "none";
```

A CSS property may be removed by setting its value to an *empty string* ("").

5. (2 points)

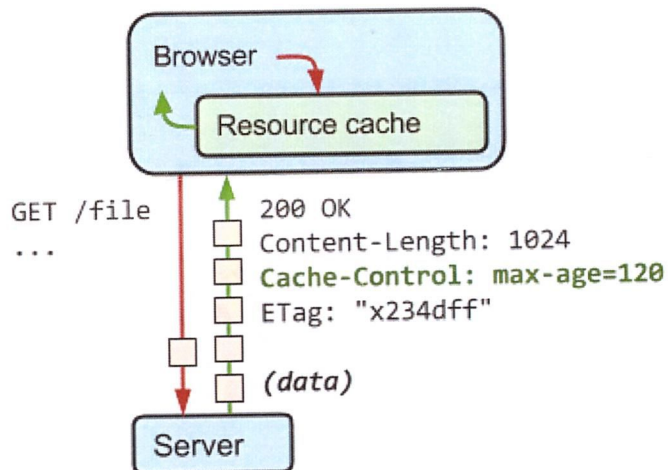
What is JavaScript used for? Give some (simple) examples of different use cases.

In terms of web applications and web software development, how is JavaScript running in a browser (client) fundamentally different from some code (eg. Django application) running on a server?

## HTTP

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6. (4 points)



Explain what happens in the picture and why it is useful.

Specifically tell what the 200 OK, Cache-Control, ETag, and Resource cache are, and what different scenarios might happen in the future.

## Sessions & Security

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### 7. (2 points)

aps is writing a blog post on a blogging service where he wrote the following as a title for the post. The **beginnings** of the texts he wrote are shown below. What is he trying to do in the two cases? When and where is the attack code executed?

- a) `Cat<script>` ..... rest of the text not shown ....
- b) `Cat'); INSERT INTO` ..... rest of the text not shown ....

### 8. (2 points)

Briefly explain the basic idea of Cross-Site Request Forgery (CSRF) protection. Be specific enough but don't write more than 1/2 page.

## Web Services

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### 9. (4 points)

In HTTP there are a couple of different methods/verbs (listed below).  
In terms of REST APIs, for what sort of interactions should they be used for?  
For each of the verbs, give an example of a good use case and also write down the URL for it. You can for instance describe a webshop API or a student records API.

The verbs are: GET, POST, PUT, DELETE

## Django

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### 10. (4 points)

Explain models, templates, and views in Django (MTV).  
How do they relate to each other?  
What are they used for?  
What problems do each of them (try to) solve?