

T-106.4300 Web Software Development : Exam

Exam date: December 14th 2010, Lecture Hall B

- All answers should easily fit on a single answer sheet.
- Write on each paper your name, your student number including any checking characters, the code and name of this course, examination hall, date, the number of papers returned and your signature.
- Return all papers, including scratch papers.
- If the question number is followed by an asterisk *, you should select all options that apply. If there is no asterisk, select only one.
- All questions are worth one point. Some are easier, some are harder.

Questions

HTML & CSS

- * The following CSS style definition

```

p i {
    font-style: italic;
}

```

makes the text italic in:

- all paragraph elements
- all paragraph elements that include an i element
- all i elements that are anywhere inside any p element
- all i elements that are located immediately after any p element

- * Which of the following definitions are equivalent to the CSS definition:

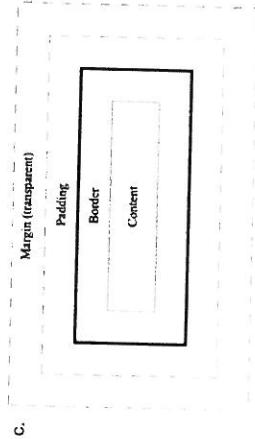
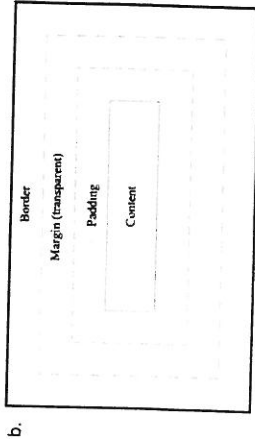
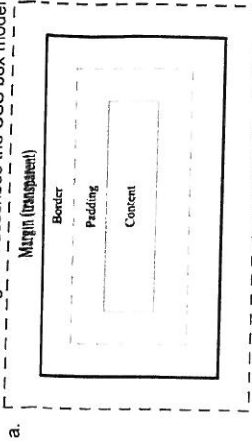
```

.marginalized {
    margin-left: 5px;
    margin-right: 5px;
    margin-top: 10px;
    margin-bottom: 10px;
}

```

- .marginalized { margin: 5px 10px; }
- .marginalized { margin: 10px 5px; }
- .marginalized { margin: 5px 10px 5px 10px; }
- .marginalized { margin: 10px 10px 5px 5px; }

- Which of the following best describes the CSS box model?



HTTP

- * Which of the following are true for the HTTP GET method?

- it is a safe method, that is, it should not change the state of the server
- it can only be used to load static resources
- forms can be submitted using the GET method

- Which of the following best describes the HTTP status code 404?

- The server failed to fulfil an apparently valid request
- The requested resource was not found
- The request was received, understood, and successfully processed
- The request requires user authentication

- What kind of HTTP request will submitting the following form with values U2 and One submit?

```

<form action="http://my.website/my_search" method="GET">
band: <input type="text" name="band"><br>
song: <input type="text" name="song"><br>
<input type="submit" value="Find it!">
</form>

```

- POST `http://my_website/my_search`
Host: `my_website`
Content-Type: `application/x-www-form-urlencoded`
Content-Length: 16
`band=U2&song=One`
- GET `http://my_website/my_search`
Host: `my_website`
Content-Type: `application/x-www-form-urlencoded`
Content-Length: 16
`band=U2&song=One`
- GET `http://my_website/my_search?band=U2&song=One`
Host: `my_website`
- POST `http://my_website/my_search?band=U2&song=One`
Host: `my_website`
Content-Type: `application/x-www-form-urlencoded`
Content-Length: 16

DOM

- * In the following HTML, which elements are immediate children of the `ul` element?

```
<div>
<ul>
  <li><a href="example-1.html">Example 1</a></li>
  <li><a href="example-2.html">Example 2</a></li>
  <li></li>
</ul>
</div>
```

- the `div` element
- the `div` element and its parents
- all the `li` elements
- all `li`, `a`, and `img` elements
- only the first `li` element

Javascript

- * Which of the following is true for JavaScript arrays?
 - arrays in JavaScript are linear
 - array indices in JavaScript are handled as strings
 - objects in JavaScript arrays can be of mixed types
 - JavaScript array's length cannot change after initialization
- * Why is using a JavaScript library like jQuery instead of coding from scratch a good idea?
 - makes it easier to write server-side form validation
 - helps to write code that works with different JavaScript implementations in browsers
 - it makes working with the DOM easier
10. Explain shortly what each element `a-f` does in the following piece of code.
Don't explain the syntax but rather why the element is necessary

```
$( "#myButton" ).click( function() { alert("Plop"); } );
```

Django

- * Which claims below are true about Django's Models
 - Models convert data from relational database form to objects and vice versa
 - Django's models have to be written for a specific relational database (MySQL, Postgres, etc.).
 - ForeignKey fields are used to refer to elements in other databases.
 - Every field in a model corresponds to at least one column a database table.
- Django has a mechanism that protects against calling methods from templates that have side effects.
Explain shortly why this is a good idea. (short answer, couple of sentences)
- * Which claims are true about Django's Views?
 - they interpret user input contained in the HTTP requests
 - they create the user interface
 - they access the models
- * A new Django application named `blog` can be initialized with the following command:
 - `django-admin.py startproject blog`
 - `python manage.py startproject blog`
 - `python manage.py startapp blog`
 - `django-admin.py startapp --name blog`
 - `django-admin.py startapp blog`
- * Which of the following statements are true for Django templates?
 - Templates can only use HTML
 - Templates can inherit other templates
 - Templates can contain and execute arbitrary Python code
 - Variables can be used in templates this way: `{{variable_name}}`
 - Templates can specify any HTTP Headers for the response

REST & SOAP

- Why should REST operations be stateless?
(short answer, two reasons suffice, write no more than a couple of sentences)
- * Which of the following are true?
 - The key elements in REST are the resources.
 - RESTful web services can be implemented using GET and POST only if needed
 - RESTful web services must use HTML

SECURITY

- * Which of the following are true for Cross Site Request Forgery
 - The user has to be tricked into following a link
 - A request might be made just by viewing a page
 - it is used to steal cookies
 - it is typically done using AJAX
 - it exploits the fact that the user is already authenticated somewhere
- Session Hijacking
Why doesn't the attacker need to know the victims password in session hijacking? (1-2 sentences)
- HTTP Response Splitting can be used to return an extra HTTP Response to a page that hasn't been visited yet. This page does not get immediately shown in the browser - Why is it still dangerous? (One sentence)

Exercise group (no points for this...)

- If you think you would attend an exercise group on this/coming week please write "WOULD ATTEND EXERCISES" on top of the first page. Judging by the answers we will decide whether to organize an extra group.