

CSE-C3210 / CS-C3170 Web Software Development : Exam

20.12.2018

- 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**.
- **If the question number is followed by an asterisk ***, you should select all options that **apply**. If there is no asterisk, select only one.
- No additional materials, calculators etc. allowed.

HTML & CSS

1. Consider the following code:

```
<form action="agree" method="post">
  <div>
    <input type="checkbox" name="terms" id="terms" required>
    <label for="terms">I accept terms and conditions</label>
  </div>
  <button type="submit">register</button>
</form>
```

- a) What is achieved with the label-element and its "for" -attribute? Max 2 sentences. **(1 point)**
b) What is the expected behavior when the button "register" is pressed? **(1 point)**
2. There are multiple h1-elements on the web page. What does the following CSS snippet do?
(correct outcome, **1 point**)
(explanation, **1 point**)

```
h1.calm {
  color: red;
}
h1, h2#specials {
  color: blue;
  font-style: italic;
}
```

HTTP

- 3) When some web page is browsed for the first time, we get a HTTP response code **200 OK** for most of the items the browser loads. The next time some items return a response code **304 Not Modified**. Please give a brief answer that answers the following:
- What is going on **(0.5 point)**
 - when and where is information stored **(0.5p)**
 - what information gets transferred **(0.5p)**
 - how is the decision made to give the code 304 **(0.5p)?**

(overall, $0.5 * 4 = 2$ points)

- 4) Consider the URL <http://www.example.com:8080/foobar?error=404>
Explain briefly what are the following parts of the URL (2 points)
- http://
 - www.example.com
 - :8080
 - /foobar
 - ?error=404

JavaScript & jQuery

- 5) The following JavaScript code is executed. What (if anything) is printed in the console on lines 7 and 8 ? (2 points)

```
1 var blob = {
2   origin: 'unknown',
3   weight: 10
4 };
5
6 blob.owner = 'unknown';
7 console.log( blob.unknown );
8 console.log( blob['owner'] );
```

APIs

- 6) **Reference expansion** (*link expansion*) is a handy feature in a RESTful interface. We could however fetch each linked resource separately. How would this differ from doing the same with reference expansion in terms of **performance**? Why? Give two reasons. (2 points)

Sessions & Security

- 7) Mallory is writing a blog post on a blogging service where she wrote the following as a title for the post. The **beginnings** of the texts she wrote are shown below. What is she trying to do in the two cases? Explain briefly. (2 points, 1 for each)
- Cat<script>** rest of the text not shown
 - Cat');** **INSERT INTO** rest of the text not shown
- 8) When you visit <http://exam-example.com> you can browse the site anonymously without logging in. When you later decide to log in, you are transferred to using **https** and sent a new session cookie. Why do you get a new cookie? (1p)

Django

- 9) ★ Which claims below are **true** about Django's Models
- Models are typically changed in templates
 - Django's models don't have to be designed for a specific relational database (MySQL, Postgres, etc..).
 - Models convert data from relational database form to objects and vice versa
 - ForeignKey fields are used to refer to other objects.

10) (total 4 points)

The following snippets are a Django view and the corresponding urls.py that could have been in someone's course project (they weren't) The service hosts **private** photo albums for a number of users. *There are no syntax or other errors in the code.*

views.py

```
1     @login_required(login_url="/login/")
2     def del_page(request, album, page_num):
3         page =
Page.objects.get_object_or_404(album=album,number=page_num)
4         page.delete()
5         return HttpResponseRedirect("/albums/")
```

urls.py

```
urlpatterns = [
    path('delete/<str:album>/<int:page_num>/', views.del_page),
    ...other urls...
```

(3 points) Briefly explain 3 **fundamentally** different scenarios that can what happen when a user visits the URL:

<http://someserver.com/delete/vacation/5>

Use the line numbers if necessary.

(1 point) There is an **authorization** problem in the code. What is it? (Max 2 sentences.)