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

13.01.2017

- 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. What is the key difference between `div` and `span` elements? (max 2 sentences)
   (1 point)

2. What does the following CSS snippet do?
   (correct outcome, **1 point**)
   (explanation, **1 point**)

```
h1.calm {
  color: blue;
}
h1, h2 {
  color: red;
  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**. What is going on (1 point) and how does it work (1 point) ?
   (max 2 sentences, **2 points**)

4) Consider the URL **https://sample:stuff@www.example.com/foobar?q=banana&id=561**
   Explain briefly what are the following parts of the URL **(2 points)**

   a) `https://`
   b) `sample:stuff@`
   c) www.example.com
   d) `/foobar`
   e) `?q=banana&id=561`

5) Please describe briefly some key differences between GET and POST? (2 points)

JavaScript & jQuery

6) 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'] );
```

7) With jQuery, the easiest way to load new HTML content from URL /products/2/ and replace element's (id examplediv) content is **(1 point)**:

```
a) $("#examplediv").update("/products/2/");
b) $("#examplediv").load("/products/2/");
c) $().get("/products/2/").update("#examplediv");
d) $().get("/products/2/").html("#examplediv");
```

APIs

8) Explain briefly the REST concepts of addressability and statelessness.
(max 4 sentences, **2 points**)

Sessions & Security

9) 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)
   a) `Cat<script>` ..... *rest of the text not shown ....*
   b) `Cat'); INSERT INTO` ..... *rest of the text not shown ....*

Django

10) ✪ Which of the following statements are **true** for Django templates? **(1 point)**
   a) All javascript code should be written in the templates
   b) Templates have if statements and for-loops
   c) Variables can be used in templates this way: `{% variable_name %}`
   d) Templates can contain and execute arbitrary Python code
   e) Templates can specify HTTP Headers for the response

11) (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.

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 = [
    url(r'^delete/(?P<album>\w+)/(?P<page_num>[0-9]{2})$', views.del_page),
    ...other urls...
```

(3 points) Briefly explain 3 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.)