CSE-C3210 Web Software Development : Exam

December 2013

- 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.
- All questions except 11 are worth one point. Some are easier, some are harder.
- No additional material allowed.

Questions

HTML & CSS

1. For the following fragment of HTML

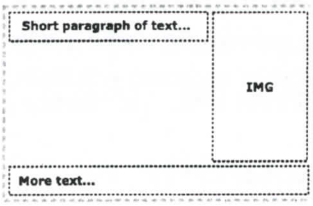
```
<div>
  <p id="first">Short paragraph of text...</p>
  <img src="myFigure.png" alt="" width="100" height="200"/>
  <p id="second">More text..</p>
</div>
```

and CSS style definition

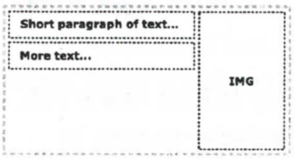
```
img, li { float: right; }
#second { clear: both; }
#first  { float: left; }
```

Which of the following best describes the resulting layout?

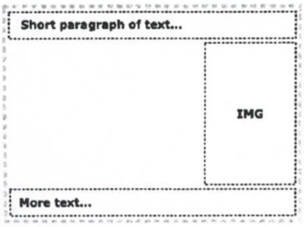
a)



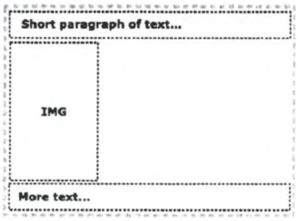
b)



c)



d)



2. The following CSS style definition

```
p i {
  font-style: italic;
}
```

makes the text italic in:
   a. all `p` elements inside any i element
   b. all paragraph elements that include an `i` element
   c. all `i` elements that are anywhere *inside* any `p` element
   d. all `p` elements that have class `i`
   e. all `p` and `i` elements

HTTP

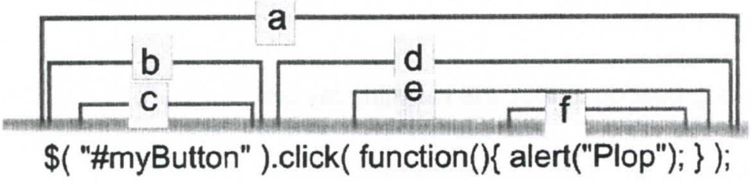
3. Explain **briefly** the different (a-e) parts of the URL:

```
https://www.example.org:8901/foo?bar=404
---a--  -------b------- -c-- -d- ---e---
```

4. How does the server set cookies?
   a. Browser automatically requests for cookies from a standardized URL
   b. Cookies are included in the `head` element of html pages
   c. Cookies are given in the HTTP headers
   d. Cookies are given using the `link` tag and loaded as separate files
   e. None of the above

JavaScript & jQuery

5. Explain **briefly** 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"); } );
```

6. With jQuery, the easiest way to load new HTML content from URL `/products/2/` and replace element's (id examplediv) content is:
   a. `jQuery("#examplediv").update("/products/2/");`
   b. `jQuery("#examplediv").load("/products/2/");`
   c. `jQuery().get("/products/2/").update("#examplediv");`
   d. `jQuery().get("/products/2/").html("#examplediv");`

Sessions & Security

7. When you are using Django's session framework, what data is stored on the server and what on client (i.e. browser)? **(max 3 sentences)**

8. Briefly explain the basic idea of Cross-Site Request Forgery (CSRF) protection. **(max 5 sentences)**

Web Services

9. ✪ Which of the following are **true**?
   a. In REST, each method operating on resources gets a unique URL
   b. If needed, RESTful web services can be implemented using GET and POST only
   c. RESTful web services should not be used using AJAX

Django

The rest of the questions are related to code in Appendix 1. You can expect that the polls application is in INSTALLED_APPS in settings.py and that all setup is done correctly for the application to work. The templates in the code include only the relevant parts and not `head` and `body` elements, for example.

10. What should TODO1 and TODO2 on line 4 of **index.html** be replaced with if you want to include the id of the Poll in the url and question of the poll inside the element?
    a. `{{ latest_poll_list.id }} and {{ latest_poll_list.question }}`
    b. `{% latest_poll_list.id %} and {% latest_poll_list.question %}`
    c. `{{ poll.id }} and {{ poll.question }}`
    d. `{% poll.id %} and {% poll.question %}`

11. Assume that there is only one Poll object in the database and the id of that object is 1. Also, assume that you run your Django application locally in port 8000. You visit URL `http://localhost:8000/polls/1/` with your browser from the same machine. Explain what Django does and which lines from the code in the Appendix are executed. How about when requesting `http://localhost:8000/polls/2/` You don't need to explain what any possible middleware does. **(max 4 points)**

Appendix 1

urls.py

```
from django.conf.urls.defaults import patterns, include, url
urlpatterns = patterns('',
    url(r'^polls/$', 'polls.views.index'),
    url(r'^polls/(?P<poll_id>\d+)/$', 'polls.views.detail'),
)
```

polls/models.py

```
from django.db import models

class Poll(models.Model):
    question = models.CharField(max_length=200)
    pub_date = models.DateTimeField('date published')

class Choice(models.Model):
    poll = models.ForeignKey(Poll)
    choice = models.CharField(max_length=200)
    votes = models.IntegerField()
```

polls/views.py

```
from django.template import Context, loader
from django.shortcuts import render_to_response, get_object_or_404
from django.http import HttpResponse
from polls.models import Poll

def index(request):
    latest_poll_list = Poll.objects.all().order_by('-pub_date')[:5]
    t = loader.get_template('index.html')
    c = Context({ 'latest_poll_list': latest_poll_list })
    return HttpResponse(t.render(c))

def detail(request, poll_id):
    p = get_object_or_404(Poll, pk=poll_id)
    return render_to_response('detail.html', {'poll': p})
```

#index.html

```
{% if latest_poll_list %}
    <ul>
    {% for poll in latest_poll_list %}
        <li><a href="/polls/TODO1/">TODO2</a></li>
    {% endfor %}
    </ul>
{% else %}
    <p>No polls are available.</p>
{% endif %}
```

#detail.html

```
<h1>{{ poll.question }}</h1>
<ul>
{% for choice in poll.choice_set.all %}
    <li>{{ choice.choice }}</li>
{% endfor %}
</ul>
```