

Web-Oriented Programming
CS215 Fall 2011 (D. Hepting)
Final Exam
December 20, 2011
09:00-12:00 • CKHS 187

PLEASE READ: This exam contributes 20% to your final mark in the class. However (as stated clearly on the syllabus) you must pass this exam to pass the class. The exam is closed book. There are 60 marks on this exam. You have 180 minutes in which to complete the exam. There are 11 questions. Write all your answers in the exam booklet: number the pages from in order from 1 to 10. Your answer for each question on the exam should be written on the page with same number in the exam booklet, and it should not occupy more than the single page. (You can spread Question 1 over 2 pages, if required.) Please remember that good answers don't have to be long. Please make note of any assumptions that you make when answering the questions.

1. Short answer. 2 marks for each part, 18 total marks (at most 2 sentences; point form is acceptable). Answer the question (1 mark, 1 sentence) and then provide an example as directed (1 mark, 1 sentence).
 - a. What does **https** mean in a URL? What is an example of something else that might be used in its place?
 - b. What is a CSS selector? What is an example of a selector to change the colour of **h1** headings?
 - c. What does **innerHTML** do? What is an example of a (W3C) standard way to do the same thing?
 - d. What is a regular expression? What is an example that could be used to check phone numbers like 306-585-4633?
 - e. What is meant by SQL injection? What is an example?
 - f. What is the other word (beginning with the letter 'c') we've mentioned along with coupling? What is an example?
 - g. Why is **onblur()** useful? What is an example?
 - h. What is a session fixation attack? What is an example of how it might be attempted?
 - i. What is SVG? What is an example of an advantage of this format?

For the following questions, consider an XHTML page that presents a form for user input.

2. How should one choose between GET and POST methods to process the form (2 marks)? What is the difference between them (2 marks)?
3. Describe 2 ways (2 marks each) in which CSS can be used to improve the usability of a data-entry form.
4. How can the validity of a phone number be checked on the client side (2 marks)? Why is this useful (2 marks)?

5. If there are potentially several phone numbers per person to store in a database, how should that database be designed (2 marks)? Why (2 marks)?
6. Considering the alternatives, why is it useful to store session information in a database (2 marks)? Explain another good practice when using sessions (2 marks).
7. On a form that allows a user to make queries about used Cessna aircraft, explain (with examples) how this could be coded from the perspectives of usability and security (4 marks).
8. Why should inputs always be sanitized (2 marks)? How can this be done in php (2 marks)?
9. What is the advantage of using Ajax to fill in the city and province of an address based on the postal code (2 marks)? How could this be done (2 marks)?
10. How might you use XML to store information about used Cessna aircraft (2 marks)? What would you need to do in order to display it (1 mark)? Aside from XML, what alternative format (or formats) might you consider (1 mark)?

11. Describe how your project used web-based content (XHTML and CSS) (2 marks), database(s) (2 marks), and authentication (2 marks).

MERRY CHRISTMAS AND A HAPPY NEW YEAR!