

# CSc 4370/6370 Web Programming

## Exam 1 (take home)

February 21, 2008

1. Consider a Web page that displays a data collection from with the following elements:
  - A text box for first name — begins with an uppercase letter.
  - A text box for last name — begins with an uppercase letter.
  - A text box for phone number — in the format (404) 555-5555.
  - A text box for email address — format email@hostname.domain.suffix. Each of the components can be a string that begins with a lowercase and contains only lowercase letters, digits, and the special characters hyphen (-) and underscore (\_).
  - Four checkboxes, one each for the following items:
    - Four 100-watt light bulbs for \$2.39
    - Eight 100-watt light bulbs for \$4.29
    - Four 100-watt long-life light bulbs for \$3.95
    - Eight 100-watt long-life light bulbs for \$7.49
  - A collection of three radio buttons that are labeled as follows:
    - Visa
    - MasterCard
    - Discover
  - A submit button.

Write HTML and Javascript code that validates all the data according to the constraints imposed on them. The validation should happen as soon as the user enters some text and leaves a text box or as soon as a checkbox is checked. The validation should also be performed when the submit button is clicked.

2. Write a servletA that computes the total cost of the ordered light bulbs from Problem 1 after adding 8.0 percent sales tax. The servletA must inform the buyer of exactly what was ordered, in a TABLE. The servletA also generates two buttons: continue button and cancel button.
3. When continue button in Problem 2 is clicked, it will direct the user to a second servlet, servletB. This servlet displays the credit card type selected by the user in Problem 1, followed by a text widget to collect the credit card number. The servletB also generates two buttons: continue button and cancel button.
4. When continue button in Problem 3 is clicked, it will direct the user to a fourth servlet, servletD. This servlet thanks the user and submits the order to an email account, defined by the developer. When any cancel button in Problem 2, 3, 4 is clicked, it will end the process and redirect to the HTML form page.