

# *Midterm Exam Practice*

## **General Instructions:**

1. Your midterm exam is a take-home (online) exam that will be posted on D2L at 5:45 pm on Mon. 4/25/16.
2. Your midterm exam is due on D2L as SINGLE PDF document at 11:55am on Tue. 4/26/16.
3. Some of the questions in the practice exam may appear in the midterm exam.
4. Supplementary reading from your textbook, Chapters: 1, 2, 4, 6, 8, 18

## **Practice Questions:**

- [Q1.] What is the dynamic content? Give an example.
- [Q2.] Explain the n-tier architecture.
- [Q3.] What is the meaning of “focused advertising” within the scope of servlet?
- [Q4.] What are the cases to prefer the use of servlet over JSP or vice versa?
- [Q5.] What is the difference between the PUT and GET within the scope of HTTP request-response model.
- [Q6.] What are the methods that you may override when implementing a Servlet.
- [Q7.] What is the difference between XML and HTML?
- [Q8.] What is the difference between HTML and servlet?
- [Q9.] Write an HTML/Servlet that allow a user to buy an item from listed items: item1, ..., item4, along with their prices, and let the servlet calculate the final cost assuming 0.05 tax.
- [Q10.] Write a Servlet that allows the student to enter Social Security number, query a table, and then display the student info: Major, Address, Phone number, Advisor, GPA.
- [Q11.] Create an html form that allows the user to enter a sentence, then send it to a servlet which will count the number of occurrences for each character and then return a table back to the browser; the table is composed of 2 columns: character, and frequency.
- [Q12.] Create an html form that allows the user to guess a number between 1 and 5000. When the user presses the submit button, the servlet will create a random number and if it is equal to the number the user guessed, the servlet will reward the user \$50. If the user guesses right twice in a row, then the user will be reward \$100. And if the user guesses right 3 times in a row, the user will be rewarded \$500. Use session

tracking to implement this application. Keep in mind, that after every guess you have to display to the user the total amount of dollars that the user won so far.

[Q13.] Write an application using [Servlet/HTML](#) for the Sports Depot store.



1. Store offers the following types of Shoes : Basketball Shoes, Running Shoes, Casual Shoes
2. Store offers the following Clothing : T-Shirt, Shorts, Jersey, Jacket
3. Store offers the following Accessories : Backpack, Duffle Bags, Gym Sack, Socks, Hat, Sunglasses

Assume there is only ONE brand (you could use any brand, or just call it XYZ brand) for each item listed above. Every item has description and price. A customer can buy (order online) one or many items in the same **session**. The customer must be able to add/delete items to/from the **shopping cart**, and edit the shopping cart. Once the customer is done with the items selection, the customer will click the **Checkout Button** and the customer will be provided with a page to enter name, address, and credit card number. After that, the user will click the **Submit Button**, and the system shall generate an itemized bill for the total amount to be paid and provide the customer with a confirmation number which is the concatenation of the first 3 characters of the last name and the last 4 digits of the credit card number.