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CS 80 - Test 3c

Instructions:

1. This test is open book, open notes, open computer. You shall not solicit help from any person, but you may use your textbook, the computer, and the Internet for research.
2. Turn in your answers to the **Test Info** basket for this Unit in the **Dropbox**.

Part 1

There are 20 questions, each of which is worth 5 points. Total points = 100.

Chapter 7: JavaScript: Control Statements I

1. A procedure for solving a problem in terms of the actions to be executed and the order in which these actions are to be executed is called **d) an algorithm** .
 - a) program control
 - b) a program structure
 - c) a control structure
 - d) an algorithm**

2. The flow of control of statements in a program should be restricted to only three patterns: **a) sequence, selection, and repetition.**

a) sequence, selection, and repetition

b) up, down, and sideways

c) upstream, downstream, and across stream

d) regular, irregular, and random

3. **c) Pseudocode** is an informal language that helps programmers develop algorithms.

a) JavaScript

b) ECMAScript

c) Pseudocode

d) AlgorithmCode

4. The word *top* in the term *top-down stepwise refinement* refers to which of the following? **c) the single statement that completely represents the script**

a) the first statement that appears in the script

b) the first statement that appears in the algorithm

c) the single statement that completely represents the script

d) the entire algorithm

5. What type of loop should be used in a script that processes test results for 150 students? **a) counter controlled**

- a) **counter controlled**
- b) sentinel controlled
- c) algorithm controlled
- d) stepwise controlled

6. Which of the following is the correct abbreviation for the statement `a = a * 7; ?` **b) `a *= 7;`**

- a) `a =* 7;`
- b) `a *= 7;`**
- c) `7 =* a;`
- d) `7 *= a;`

Chapter 12: Document Object Model (DOM): Objects and Collections

7. The elements in a web page are represented by a(n) **a) object hierarchy**.

- a) object hierarchy**
- b) parent tree
- c) dynamic HTML
- d) DOM property

8. An HTML5 element inside another element is a **b) child** of the containing element.

- a) parent
- b) child**
- c) instance
- d) sub-element

9. Function `getElementById` returns a(n) **d) object**.

- a) boolean
- b) string
- c) id attribute
- d) object**

10. Which of the following is the proper way to dynamically access the background color? **a)**

`document.body.style.BackgroundColor`

- a) `document.body.style.BackgroundColor`**
- b) `document.body.attributes.BackgroundColor`
- c) `document.body.style.backgroundColor`
- d) `document.body.style.background-color`

11. What is the significance of the second function argument in the following line?

`window.setInterval("run()", 100);`

c) The value sets the number of milliseconds to wait between calls to the function.

- a) The value sets how many times to call the function specified in the first argument.
- b) The value sets how long the function is run for.
- c) The value sets the number of milliseconds to wait between calls to the function.**
- d) The value sets the time to wait before calling the function once.

12. Which of these is the method of the `window` object that stops repetitive calls to a method? **d) `clearInterval`**

- a) `clearTimer`
- b) `stopTimer`
- c) `stopInterval`
- d) `clearInterval`**

Chapter 15: XML

13. **b) XML**, a widely supported open technology for data exchange, was developed by **b.) the W3C**.

- a) SGML, The Mozilla Foundation
- b) XML, the W3C**
- c) HTML5, the W3C
- d) XML, The Mozilla Foundation

14. The **a) root** element contains all other elements in the document.

- a) root**
- b) prolog
- c) epilog
- d) XML

15. Which of the following is not an advantage of XML? **b) It is faster to parse than any other data exchange format.**

- a) It is portable and widely supported.
- b) It is faster to parse than any other data exchange format.**
- c) It can be used to create customized markup for any type of information.
- d) It is understandable by both humans and computers.

16. In the following XML markup, `one` is a(n) **d) sibling** element of `two`.

```
<three>  
  <two>some data</two>  
  <one>some other data</one>  
</three>
```

- a) parent
- b) child
- c) root
- d) sibling**

17. Which of the following is a valid XML comment? **d) `<!-- comment -->`**

- a) `<!-- comment >`
- b) `<!-- comment --!>`
- c) `<-- comment -->`
- d) `<!-- comment -->`**

18. Attempting to create namespace prefix (NAMED) **a) `xml`** in any mixture of cases is an error.

- a) `xml`**

- b) urn
- c) text
- d) xsl

19. To eliminate the need to place namespace prefixes in each element, document authors may specify a(n) **d) default namespace** for an element and that element's children.

- a) element
- b) attribute
- c) keyword
- d) default namespace**

20. A DTD is typically used to **b) validate** an XML document.

- a) display
- b) validate**
- c) compile
- d) parse

Part 2

Extra Credit 15 points

Example 3 in the Lecture Notes for Chapter 12 on the DOM was a script that displays the result of rolling a die n times. It retains (in memory), and can display, the results of all rolls. Here are links to the HTML and .js files:

- <http://kengeddes.com/cs80/examples/diceSaveResults.html>
- <http://kengeddes.com/cs80/examples/diceSaveResults.js>

Add HTML and JavaScript code to save all the results to Web

Storage. Your code shall meet the following requirements:

1. There shall be two additional buttons labeled **Save** and **Retrieve**.
2. When **Save** is clicked, the contents of the `allResults` variable (an array) shall be saved to local storage (as a string).
Note: For a tutorial on this new feature of HTML5, see [HTML5 Web Storage](#).
3. When **Retrieve** is clicked, the `allResults` variable shall be set to the value it had when the **Save** button was last clicked.
Hint: Retrieve the data saved to local storage, re-create the array, and assign it to the `allResults` variable.