CSCI-230 Web Scripting

HOMEWORK 11 - OBJECTS

1. This assignment should take priority over all others. We will be discussing JavaScript classes on Friday and you need to understand the content in Chapter 6 in order to fully understand classes. There will be no extension given to this assignment. It will be graded on Friday.

2. Please read chapter 6. It took me a few hours to read and experiment with over 200 lines of code. The goal of reading and experimenting is to build understanding. Object are the primary data type in JavaScript and understanding how to construct and use them is critical to understanding Javascript.

3. Create an HTMl file named a11.html, a CSS file named a11.css, and a JavaScript file named a11.js.

4. In your JavaScript file, write fragments of code, in the order specified below, that do the following:
    1. Create an object named obj1 using an object literal. The object should contain an integer property, a string property, an array property, and an object property.

    2. Use Object.create() to create an object named obj2 with the default Object.prototype prototype. Add two new properties to obj2, one containing an integer and the other containing a string. Print the contents of obj2 to the console.

    3. Use Object.getOwnProperties() to get a list of own properties for obj2. Print the list to the console.

    4. Use Object.getPrototypeOf() to get the prototype of obj2. Print the own properties of the prototype to the console.

    5. Demonstrate inheritance by creating 3 objects (named obj1, obj2, and obj3). The second object should inherit from the first and the third should inherit from the second. Print the values of all of the properties (own and inherited) in obj3.

    6. Use the keyword 'in' to verify that all the inherited properties are in obj3.

    7. Use hasOwnProperty() to test if the inherited properties in obj3 are own properties.

    8. Use propertyIsEnumerable() to test if the inherited properties in obj3 are own properties and enumerable.

    9. Print all of the enumerable own properties of obj3 using Object.keys().

    10. Demonstrate two ways to copy the contents of one object into another object without overwriting the values in the target object.

11. Show that the inherited properties are not included in the string returned by JSON.stringify()

12. Create an object from a string representation of an object using JSON.parse()

13. Create an object that includes properties called name and age. Overwrite the toString() method to return a string containing the value in the name property followed by a comma and the value in the age property. Print to the console the string returned by toString by invoking the toString() method.

14. Demonstrate the shorthand way of creating an object using existing declared variables.

15. Use the spread operator in an object literal to create a new object.

16. Declare an object that has an accessor property which utilizes a non-accessor property to set and get the accessor property.