Lesson 9: Custom JavaScript Objects
Objectives

• Create a custom JavaScript object
• Define properties and methods of custom objects
• Create new object instances
• Create client-side arrays using custom objects
• Create functions and methods for manipulating client-side arrays
• Use the *prototype* property
Creating Custom Objects

- Array objects, custom objects and databases
- Advantages of custom objects
- Custom object demonstration
Creating a JavaScript Object: The Constructor

• Constructor
  • A special function that enables you to create instances of custom objects
  • Defines the properties and methods of your object
Creating an Instance of a Custom Object

• To instantiate and then populate the properties of each new instance with actual data, you must declare variables

• The *prototype* property
  • Used to add new properties or methods to JavaScript objects
Creating Object Methods

• You can create as many methods for your object as you need (or as many as memory allows)
• You can make them as simple or as sophisticated as you like
Creating Functions for Your Objects

• The `findItem()` function
• The `showAll()` function
• Full source code for this client-side array
• Complex custom objects
Summary

- Create a custom JavaScript object
- Define properties and methods of custom objects
- Create new object instances
- Create client-side arrays using custom objects
- Create functions and methods for manipulating client-side arrays
- Use the prototype property
1. What is a constructor?
   a. A new instance of a custom object
   b. A method that defines the properties of a custom object
   c. A predefined object to which you add methods and properties
   d. A function that defines methods and properties of a custom object used as a template for instances of the custom object
Lesson 9 Quiz

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Lesson 9 Quiz

2. How do you instantiate new instances of an object?
   a. With the new keyword, the function name, and a list of values
   b. With the new keyword and the object name
   c. With the this keyword and the object name
   d. With the this keyword, the function name, and a list of parameters
2. How do you instantiate new instances of an object?
   a. With the new keyword, the function name, and a list of values
   b. With the new keyword and the object name
   c. With the this keyword and the object name
   d. With the this keyword, the function name, and a list of parameters
3. How do you access the properties and methods of a newly instantiated object?
   a. With the this keyword
   b. By declaring variables
   c. Using dot notation
   d. With the new keyword
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a. With the this keyword
b. By declaring variables

**c. Using dot notation**

d. With the new keyword
4. Define a constructor function for a custom object named empObject. Add three properties: name, age and department. Add one method: showOne
Lesson 9 Quiz

4. Define a constructor function for a custom object named empObject. Add three properties: name, age and department. Add one method: showOne

```javascript
function empObject(name, age, department) {
    this.name = name;
    this.age = age;
    this.department = department;
    this.showOne = showOne;
}
```
5. Using the empObject() constructor function from the previous question, instantiate two new employees in an array named employees.
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    var employees = new Array();
    employees[0] = new empObject("Jane Doe", 25, "Management");
Lesson 9 Quiz

6. Using the first employee instantiated in the previous question, how would a program access the name and age properties for that object? Output the data to two separate lines on an XHTML page.
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```javascript
document.write("Name: " + employees[0].name + ",\n");
document.write("Age: " + employees[0].age + ",\n");
```
7. Using the employees array, write a script block that would output each employee's name while making each name a link to the showOne() method. You will define the showOne() method in the next question.
7. Using the employees array, write a script block that would output each employee's name while making each name a link to the showOne() method. You will define the showOne() method in the next question.

One way to write this code is as follows:

```javascript
var x = employees.length;
for (var j = 0; j < x; j++) {
    document.write('<a href="javascript:void(employees[" + j + "]\).showOne()">"');
    document.write(employees[j].name + '</a><br/>
    }
```