**JavaScript**

**Review: JavaScript Operators**

* What is an *object*?
* What is the *Date* object?
* What is a *constructor* function?
* What is the purpose of the Date constructor?

var today = new Date();

In the code above:

* Which Date object is created using the default constructor? What date and time is it set to?

**Conditional Operator**

* JavaScript gives you two ways of creating conditional statements:
  + The *conditional operator*:  
     *?*  
    (This is sometimes called the *ternary* conditional operator)  
    var temperature = 60;  
    alert(temperature < 50 ? “Wear a coat” : “Enjoy the warm day”);
  + The *if* and *else* keywords  
    var temperature = 60;  
    if (temperature < 50)  
     alert(“Wear a coat”);  
    else  
     alert(“Enjoy the warm day”);
* This week we will learn to use the *conditional operator, ?*  
  We’ll learn to use *if statements* in Tutorial 12, Section 12.3
* There are three parts to a *conditional statement*
  + *conditional expression*
    - contains a *comparison operator*
    - contains two values (could be variables or literals or other statements) to be compared
    - evaluates to *true* or *false*  
      temperature < 50
  + true value to the left of the colon

“Wear a coat”

* + false value to the right of the colon

“Enjoy the warm day”

* Comparison operators

|  |  |  |
| --- | --- | --- |
| Operator | Expression is true when… | Examples of true conditional expressions where:  var a = 7, b = 8; |
| == | Operands are equal to each other | b == b |
| != | Operands are not equal to each other | a != b |
| > | Left operand is greater than the right operand | b > a |
| < | Left operand is less than the right operand | a < b |
| >= | Left operand is greater than or equal to the right operand | b >= b or b >= a |
| <= | Left operand is less than or equal to the right operand | b <= b or a <= b |

**Logical operators**

* JavaScript logical operators and expressions

|  |  |  |  |
| --- | --- | --- | --- |
| Operator symbol | name | Expression is true when… | Examples of true logical expressions where:  var a = true, b = false; |
| && | and | Both operands are true | a && a |
| || | or | Either operand is true | a || b, b || a |
| ! | not | The operand is false | !b |

* Truth tables

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **AND** | | |  | **OR** | | |  | **NOT** | |
| **A** | **B** | **Q** |  | **A** | **B** | **Q** |  | **A** | **Q** |
| F | F | F |  | F | F | F |  | F | T |
| F | T | F |  | F | T | T |  | T | F |
| T | F | F |  | T | F | T |  |  |  |
| T | T | T |  | T | T | T |  |  |  |

* Examples using logical operators
* Examples of nested conditional statements
  + (x < 10) ? value1 : ((x > 10) ? value2 : value3);
* Timed commands: page788