**JavaScript**

**Review: *Conditional Expressions* and *Conditional Statements***

* What is a *conditional expression*?
  + Relational operators are used in conditional expressions:
    - *<,* less than
    - *>,* greater than
    - *==,* equal
    - *!=,* not equal
  + Example of a conditional expression:  
    temperature < 50
* When a *conditional expression* is evaluated, the result will be one of what two values?
* What is the *ternary conditional operator*?
* How are *conditional expressions* used in *a ternary conditional statement*?
* What value does a *ternary conditional statement* evaluate to?
* Example:  
  var temperature = 60;  
  alert(temperature < 50 ? "Wear a coat" : "Enjoy the warm day");
* What are the three *control structures* used by most programming languages?
* What is *selection*?

**Selection using *if statements***

* Three types of selection statements: *ternary conditional statements*, *if* *statements* and *switch statements*
* Types of *if statements*:  
    
  In the examples below, assume this line of code was executed first:  
  var degrees = prompt("Enter the temperature");  
  + Single branch   
    *keyword* *conditional expression (“condition”)*  
     | |  
    if(degrees < 45)   
     alert("wear a coat"); --- statement to be executed if the condition is true
  + Two branches  
    if(degrees < 45)   
     alert("wear a coat"); --- statement to be executed if the condition is true  
    else --- keyword  
     alert("enjoy the warm weather! "); --- executed if the condition is false
  + Multiple branches  
      
     *first condition*  
     |  
    if(degrees < 32)   
     alert("wear a warm coat"); --- executed only if the first condition is true  
      
     *second condition*  
     |  
    else if (degrees < 45)  
     alert("wear a jacket"); --- executed only if the second condition is true   
    else  
     alert("enjoy the warm weather! "); --- executed only neither condition is true
* Conditional expressions using *logical operators*  
    
  Assume an additional line of code:  
  var wind = prompt("Enter the wind speed");  
  + AND, &&  
      
    if(degrees < 60 && wind > 10)  
     alert("wear a jacket");
  + OR, ||  
      
    if(degrees < 45 || wind > 20)  
     alert("wear a warm coat");
  + NOT, !  
      
    var name = prompt("Enter your name");  
    if( !(name == "Han Solo"))  
     alert("This is not your spacecraft! ");
* Nested if statements
  + Another way to combine multiple conditional expressions is to nest the if statements.
  + Nesting has the same effect as using the AND logical operator. Here’s an example:
    - Nesting that is equivalent to ANDing two conditions:  
      if(degrees < 60)   
       if(wind > 10)  
       alert("wear a jacket");
* When to use curly braces
  + By default, an if statement will execute the one statement following the condition
    - This is true even if the statement is another if statement (nesting)
  + To execute more than one statement, put them in curly braces.
  + Rule of thumb: if you use curly braces around one branch in an if statement, use it around both. Example:  
      
    // calculate average scores for scores greater than 0

var count = 0, total = 0, average = 0, score = "0";

while (score != "")

{

var score = prompt("Enter your score, or enter nothing to quit");

if(score > 0)

{

count++;

total += parseInt(score);

average = total / count;

}  
 else  
 {  
 alert("Please enter a score greater than zero");  
 }

}

alert("average: " + average);