Description

Initialize a while loop before entering the while and increment as the last line of the while loop. More on conditionals (and--&&,or--||,not--!).

Introduction

Use a while statement to  execute a block of statements WHILE a certain conition is TRUE.  The block executes until the condition becomes FALSE.  Use the while loop where you need a way to allow (or not allow) entry (or re-entry) to the loop code block.

Note the while loop must be initialized BEFORE getting to the conditional at the beginning of the loop. The while loop is increment with the code block itself. The increment is quite often the LAST statement in the code block.

Focus

<html>  
<head>  
<title>A While Loop</title>  
</head>  
<body>  
<div id="count">  
<br/>  
</div>  
<script type = "text/javascript">  
var text\_accumulator="";  
var top = 9;  
var index = 0;  
while(index < top){  
text\_accumulator = text\_accumulator + "The value of index("+ index + ") is less than the value of top(" +top+ "), so the condition is TRUE and the loop is re-entered<br/>";  
index++; /\* same as index=index + 1 \*/  
}  
text\_accumulator =text\_accumulator + "The value of index("+ index + ") is equal to the value of top(" +top+ "), so the condition is FALSE and the loop is NOT re-entered";  
document.getElementById("count").innerHTML = text\_accumulator;  
</script>  
<h2>A While Loop</h2>  
This WHILE loop iterates ten times since the index starts at zero. The loop executes until the index  
equals the value of the variable number. The loops ends when number is incremented to be ten. When index=10, the condition (index < number) of the while loop is FALSE. </body>  
</html>

Explanation

The above while loop uses the conditional (index < top).  If the value of index is less than the value of top, then the conditional evaluates to be true and the while continues to execute.   However, if the value of index is equal to or greater than the value of top,  then the conditional evaluates to be false and the while loop ceases to execute.

In Javascript, conditional statements are often combined using the words **and**, **or**, or**not.**The symbol for **and** is **&&**, the symbol for **or** is **||** and the symbol for **not** is **!**.  
To represent (0 < x <5) we write ((x > 0) && (x < 5)).  To represent  ((x < 0) or (x > 5)) we write ((x<0) || (x>5)).  
Note:  The sentence (*p* && *q*) is true when, and only when, BOTH  *p* and *q* are true.  The sentence (*p* || *q*) is true in ALL cases except when both *p* and *q* are false.

Using two nested while loops, modify guess game to do the following:

1. Let the user make guesses until he *guesses correctly* OR has made a total of *three guesses*.
2. The range of guesses must be between 0 and 10.
3. Any guess outside of range should NOT count as one of the three guesses.

Assignment

Modify guess game to loop until the correct guess is made. The user can only make 3 valid guesses between 0 and 100. Any guess out of bounds will not count as a guess. The guess that the user in on should be displayed in the prompt.