

JavaScript – Recitation 7

****The JS keywords below are in LOWERCASE. Otherwise, they won't work!**

The **if** statement: executes some code only if a specified condition is true.

Example 1:

```
<script>
    //Let's alert "Good Morning!" if the time is less than 12
    var time = 6;
    if (time < 12){ // '<' means less than
        alert("Good Morning!");
    }
</script>
```

Example 2:

```
<script>
    var total = 0;
    var price1 = 4.50;
    var price2 = 2.00;
    total = price1 + price2;
    if(total >= 1){ // '>=' means "greater than equal to"
        document.write("Wow, you spent so much money...");
    }
</script>
```

Example 3:

```
<script>
    //THIS WON'T WORK! Why?
    var total;
    var price1 = "4.50";
    var price2 = "2.00";
    total = price1 + price2;
    if(total == 6.50){ // '==' means "equal"
        alert("The total is $6.50");
    }
</script>
```

Remember! When anything is surrounded by double quotes, you are working with a JavaScript String Object! They are NOT numbers!

****How do you change the total in the if statement so that the code within it gets executed?**

Example 4:

```

<script>
    var total = "2"; //String object
    var price = 2; //Number object
    if(total !== price){
        alert("They are different types");
    }

    total = 2;

    if(total === price){
        alert("They are the same type!");
    }
</script>

```

The **if-else** statement: the if statement executes some code if a specified condition is true and another code if the specified condition is not true.

Example 1:

```

<script>
    var yourAge = 101;
    var grandpaAge = 19;
    if(yourAge !== grandpaAge){ // '!=' means "not equal"
        alert("Ages are not equal!");
    } else { // if ages are equal, then enters here
        alert("Ages are equal!");
    }
</script>

```

Example 2:

```

<script>
    //how many quarters can fit into the totalCost?
    var totalCost = 1.75;
    var quarterAmount = 0.25;
    if(totalCost / quarterAmount > 0){ // '/' is division
        alert("I can give you up to " + totalCost/quarterAmount + "quarters!");
    } else {
        alert("I can't give you any quarters.");
    }

    //how much money will you have leftover after I give you quarters?
    if(totalCost % quarterAmount > 0){ // '%' is modulus (division remainder)
        alert("You have " + totalCost % quarterAmount + "leftover.");
    } else {
        alert("You will have no money leftover after I give you quarters.");
    }

```

```
    }  
</script>
```

Example 3:

```
<script>  
    //is my number even?  
    var number = 5;  
    if(number % 2 == 0){ // if the remainder is 0 when divided by 2  
        document.write("My number is even!");  
    } else { // remainder is not 0 when divided by 2  
        document.write("My number is odd!");  
    }  
</script>
```

The **if**, **else-if**, **else** statements: use to select one of several blocks of code to be executed.

Example 1:

```
<script>  
    var time = 15;  
    if(time < 12){  
        alert("Good Morning!");  
    } else if(time < 18){  
        alert("Good Afternoon!");  
    } else {  
        alert("Good Evening!");  
    }  
</script>
```

Example 2:

```
<script>  
    var total = 0;  
    var randomNumber = 3;  
    if(total == 0 && total == 1){  
        total = total + 2;  
    } else if(total == 0 || total == 1){  
        total++;  
    } else if(total == 2 || total == 5){  
        total--;  
    } else {  
        total = total * randomNumber;  
    }  
    alert(total); //what does it equal?  
</script>
```

The 'confirm' box: used if you want the user to verify or accept something.

- When a confirm box pops up, click "OK" or "Cancel" to proceed.
- If the user clicks "OK," the box returns true.
- If the user clicks "Cancel," the box returns false.

```
<script>
  var r = confirm("Your order total is $12.98. Please confirm.");
  if (r == true){
    x = "Your items will be shipped today.";
  } else { // this means r is false
    y = "You're returning to the shopping cart.";
  }
</script>
```

Operators

Arithmetic Operators

Operator	Description
+	Addition
-	Subtraction
*	Multiplication
/	Division
%	Modulus (division remainder)
++	Increment
--	Decrement

Assignment Operators

Operator	Example	Same As
=	x=y	
+=	x+=y	x=x+y
-=	x-=y	x=x-y
=	x=y	x=x*y
/=	x/=y	x=x/y
%=	x%=y	x=x%y

Comparison Operators (Remind the students that these return T or F)

Operator	Description	Example	
==	equal to	x==8	false
		x==5	true
===	exactly equal to (equal value and equal type)	x==="5"	false
		x===5	true
!=	not equal	x!=8	true
!==	not equal (different value or different type)	x!== "5"	true
		x!== 5	false
>	greater than	x>8	false
<	less than	x<8	true
>=	greater than or equal to	x>=8	false
<=	less than or equal to	x<=8	true

Logical Operators

Operator	Description	Example
&&	and	(x < 10 && y > 1) is true
	or	(x==5 y==5) is false
!	not	!(x==y) is true