INTRODUCTION TO JAVASCRIPT

JAVASCRIPT

► JavaScript is used in millions of Web pages to improve the design, validate forms, detect browsers, create cookies, and much more.

► JavaScript is the most popular scripting language on the internet, and works in all major browsers, such as Internet Explorer, Mozilla, Firefox, Netscape, Opera.

WHAT IS JAVASCRIPT?

▶ JavaScript was designed to add interactivity to HTML pages

▶ JavaScript is a scripting language (a scripting language is a lightweight programming language)

▶ A JavaScript consists of lines of executable computer code

▶ A JavaScript is usually embedded directly into HTML pages

▶ JavaScript is an interpreted language (means that scripts execute without preliminary compilation)

▶ Everyone can use JavaScript without purchasing a license

Are Java and JavaScript the Same?

► NO!

► Java and JavaScript are two completely different languages in both concept and design!

► Java (developed by Sun Microsystems) is a powerful and much more complex programming language - in the same category as C and C++.

How to Put a JavaScript Into an HTML Page?

```html
<html>
<body>
<script type="text/javascript">
document.write("Hello World!")
</script>
</body>
</html>
```

Ending Statements With a Semicolon?

▶ With traditional programming languages, like C++ and Java, each code statement has to end with a semicolon (;).

▶ Many programmers continue this habit when writing JavaScript, but in general, semicolons are **optional**! However, semicolons are required if you want to put more than one statement on a single line.

JavaScript Variables

► Variables are used to store data.

► A variable is a "container" for information you want to store. A variable's value can change during the script. You can refer to a variable by name to see its value or to change its value.

► Rules for variable names:

  ▪ Variable names are case sensitive

  ▪ They must begin with a letter or the underscore character

    ► strname – STRNAME (not same)

JavaScript Operators

Arithmetic Operators

(İşleçler, iki ya da daha fazla değer üzerinde işlem yapılmasını sağlar. JavaScript içinde aritmetik ve hesaplama işleçleri olmak üzere iki tür işleç kullanılır)

Operator	Description	Example	Result
+	Addition	x=2 y=2 x+y	4
-	Subtraction	x=5 y=2 x-y	3
*	Multiplication	x=5 y=4 x*y	20
/	Division	15/5 5/2	3 2,5
%	Modulus (division remainder)	5%2 10%8 10%2	1 2 0
++	Increment	x=5 x++	x=6
--	Decrement	x=5 x--	x=4

JavaScript Operators – 2

Assignment Operators

(Atama deyimi (=), bir değişkene bir değerin atanmasını sağlar. Değişkenlere türlerine ve tanımlamalarına uygun olan herhangi bir değer atanabilir.)

Operator	Example	Is The Same As
=	x=y	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

JavaScript Operators - 3

Comparison Operators

(Karşılaştırma işleci, iki ya da daha çok değeri birbiriyle karşılaştırarak True ya da False olarak mantıksal bir değer döndürür.)

Operator	Description	Example
==	is equal to	5==8 returns false
===	is equal to (checks for both value and type)	x=5 y="5" x==y returns true x===y returns false
!=	is not equal	5!=8 returns true
>	is greater than	5>8 returns false
<	is less than	5<8 returns true
>=	is greater than or equal to	5>=8 returns false
<=	is less than or equal to	5<=8 returns true

JavaScript Operators - 4

Logical Operators

(İkili işleçler birden çok karşılaştırma işlemini tek bir koşul ifadesi olarak birleştirirler.)

Operator	Description	Example
&&	and	x=6 y=3 (x < 10 && y > 1) returns true
||	or	x=6 y=3 (x==5 || y==5) returns false
!	not	x=6 y=3 !(x==y) returns true

JavaScript Basic Examples

```
<script>
document.write("Hello World!")
</script>
```
⟹ format text with HTML code - heading

```
<script>
alert("Hello World!")
</script>
```

Example

```
<script>
x="Hello World!"
document.write(x)
</script>


<script>
x="İsminizi Yazın…."
document.write("Merhaba" +x)
</script>
```
⇒ use line break html code

JavaScript Popup Boxes

► Alert Box

- An alert box is often used if you want to make sure information comes through to the user.
- When an alert box pops up, the user will have to click "OK" to proceed.

```
<script>
alert("Hello World!")
</script>
```

JavaScript Popup Boxes - 2

► Confirm Box

- A confirm box is often used if you want the user to verify or accept something.

- When a confirm box pops up, the user will have to click either "OK" or "Cancel" to proceed.

- If the user clicks "OK", the box returns true. If the user clicks "Cancel", the box returns false.

JavaScript Popup Boxes - 3

► Prompt Box

- A prompt box is often used if you want the user to input a value before entering a page.

- When a prompt box pops up, the user will have to click either "OK" or "Cancel" to proceed after entering an input value.

- If the user clicks "OK", the box returns the input value. If the user clicks "Cancel", the box returns null.

Prompt Box Example

```
<script>
x=prompt ("Adınızı Yazınız", " ")
document.write("Merhaba <br>",+x)
</script>
```

JS Examples -1

Y=20x+12 ve x=3 ise, sonucu açılan pencerede gösteren kod nasıl yazılmalıdır?

```
<script>
x=3
y=20*x+12
alert(y)
</script>
```

Examples -2

```
<script>
s1=12
s2=28
toplam=s1+s2
document.write("Sayıların toplamı: "+toplam)
</script>
```

Examples -3

s1=12, s2=28

Bu değişkenlere ait sayıların toplamlarını, farklarını, çarpımlarını ve bölümlerini ayrı satırlarda gösteren ve son olarak ekrana "Hesaplamalar sona erdi" yazısını çıkaran js kodunu oluşturunuz.

```
<script>
s1=12
s2=28
toplam=s1+s2
fark=s1-s2
carp=s1*s2
bol=s1/s2
document.write("<br>Değişkenlerdeki sayılarla ilgili aritmetik işlemler...<br>")
document.write("<br>Sayıların toplamı: "+toplam)
document.write("<br>Sayıların farkı: "+fark)
document.write("<br>Sayıların çarpımı: "+carp)
document.write("<br>1.sayının 2.sayıya bölümü: "+bol)
alert("Hesaplamalar sona erdi!")
</script >
```

Conditional Statements

► Very often when you write code, you want to perform different actions for different decisions. You can use conditional statements in your code to do this.

In JavaScript we have the following conditional statements:

► **if statement** - use this statement if you want to execute some code only if a specified condition is true

► **if...else statement** - use this statement if you want to execute some code if the condition is true and another code if the condition is false

► **if...else if....else statement** - use this statement if you want to select one of many blocks of code to be executed

► **switch statement** - use this statement if you want to select one of many blocks of code to be executed

Conditional Statements - 2

```
if (condition)
{
code to be executed if condition is true

}
```

```
if (condition)
{
code to be executed if condition is true
}
else
{
code to be executed if condition is not true
}
```

Conditional Statements Examples

```
<script>
x=3
if(x<0)
{
alert ("negatif")
}
else
{
alert ("pozitif")
}
</script>
```

Conditional Statements Examples - 2

```
<script>
c=confirm("Kitap Okuyor musunuz?")
if(c)
{
alert ("tebrikler walla")
}
else
{
alert ("ayıp ettiniz ama")
}
</script>
```

Conditional Statements Examples - 3

```
<script>
p=prompt("Ankara'nın plaka numarası nedir?", " ")
if(p=="06")
{
alert("Doğru")
}
else
{
alert("Yanlış")
}
</script>
```