Intro – Grammer of Javascript
in comparison with PHP

Week 04

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HTML
Structure

CSS
Presentation

Javascript
Behavior

Javascript

Adds **Behavior** & **Interactivity** with

Immediate Feedback to a web page

Usage of Javascript

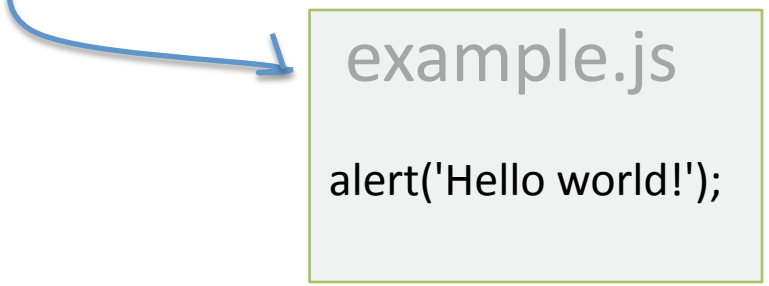
- Examples on web pages
  - Google Map, animations, mouse clicks, etc
- Examples beyond webpages
  - Yahoo Widgets, Apple's Dashboard Widgets, etc
- Flash Actionscript is based on Javascript

How to add Javascript to a page

```
<!DOCTYPE HTML >
<html>
<head><title>My Web Page</title>

<script type="text/javascript">
alert('hello world!');
 </script>

</head>
```

How to link external Javascript file

```
<!doctype html>
<html>
<head> <title>My Web Page</title>

<script src=”example.js"></script>

</head>
```



How to write text on a page

Javascript way

```
<script>

document.write
    (“<p>Helloworld!</p>”);

</script>
```

PHP way

```
<?php

echo “<p>Helloworld!</p>” ;

?>
```

How to comment on a page

Javascript way

```
<script>

//this is my
//comment

/*  this is a
Block Comment*/

</script>
```

PHP way

```
<?php

//this is my
// comment

/*  this is a
Block Comment*/

?>
```

HTML way

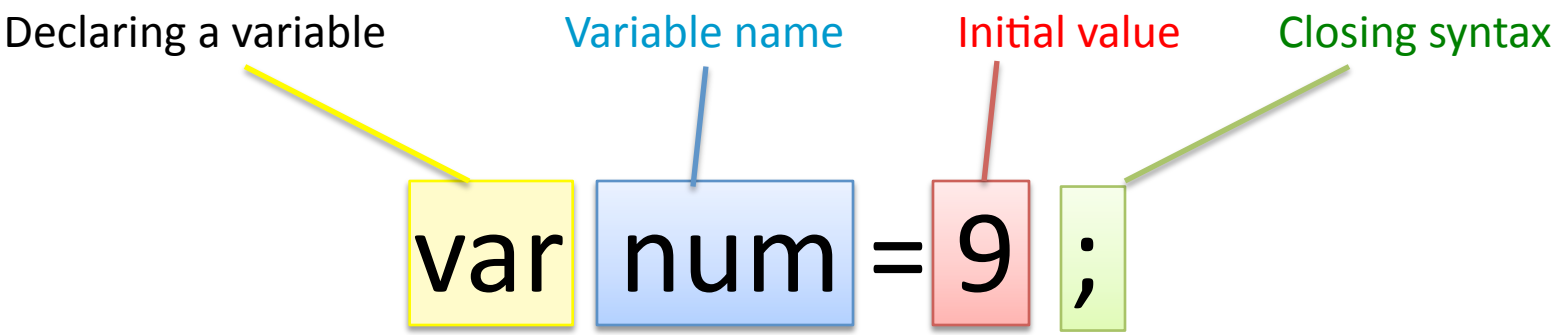
```
<!– this is my
comment -- >
```

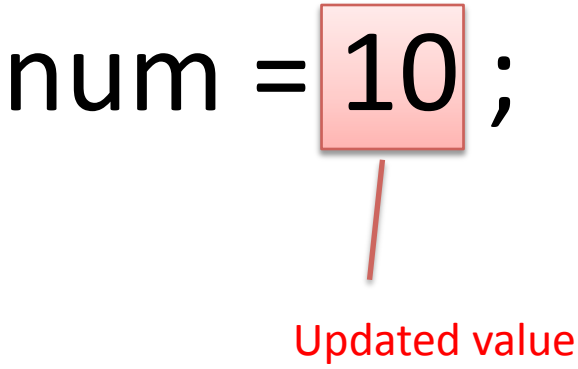
CSS way

```
/*  this is my
comment
*/
```

GRAMER OF JAVASCRIPT

Variable


Declaring a variable
Variable name
Initial value
Closing syntax
var num = 9 ;


num = 10 ;
Updated value

Rules for naming a variable

- **Variable names must begin with a letter, $, or _**
  - Do not start your variable with numbers or weird characters

- **Variable names can only contain letters, numbers, $, and _**
  - Do not contain blanks or weird characters

right

```
var mine
var $mine
var _mine
```

wrong

```
var 1mine
var &mine
var mine is
var you&me
```

Variables

Javascript way - Numbers

```
var num=8;
```

or

```
num=8;
```

PHP way - Numbers

```
$num=8;
```

Javascript way - String

```
var mystring="My keyword";
mystring='My keyword';
```

or

PHP way - String

```
$mystring="My keyword";
$mystring='My keyword';
```

Combining Strings

Javascript way - +

```
fullName
= firstName + lastName;
```

PHP way - .

```
$fullName
= $firstName . $ lastName;
```

Variables - Boolean

Boolean is a data type, having two values (true and false)
Returns 1 if true and 0 if false

Javascript way - Boolean

```
var male=true;    female=false;
```

```
document.write(male);
```

result

1

```
document.write(female);
```

result

0

PHP way - Boolean

```
$male=true;  $female=false;
```

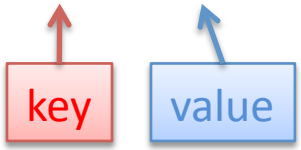
```
echo ($male);
```

```
echo($female);
```

Variables - Array

Javascript way - Array

```
var my=new Array();
my[0]=“foo";
my[1]=“bar”;
```



or

```
var my=new Array(”foo",”bar”);
```

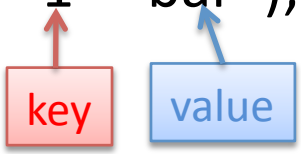
or

```
my=[”foo",”bar"];
```

```
Documents.write(my[0]);
```

PHP way - Array

```
$my= array(
0=> ”foo",
1 =“bar”);
```



or

```
$my=array(“foo”,”bar”);
```

or

```
echo $my(0);
```

foo

For Each - Accessing array Items-

Javascript way – for each loop

```
var my=new Array();
my[0]=“foo";
my[1]=“bar”;

for(var key in my){
document.write(my[key]);
}
```

2

```
for(var key =0; key<my.length; key++){
document.write(my[key]);
}
```

PHP way – for each loop

```
$my= array(
0=> ”foo",
1 =“bar”);

foreach($my as $key=> $value) {
      echo $my($key) ;
      echo $value;
}
```

2

```
for ($key=0; $key<count($my); $key++) {
      echo $my($key) ;
}
```

Arithmetics

Operator
+
-
*
/
%

Performing math		
+=	score+=10	Adds value score = score + 10
-=	score-=10	Subtracts value score = score - 10
*=	score*=10	Multiplies the value to the variable score = score * 10
/=	score/=10	Divides the value in the variable score = score / 10
++	score++	adds 1 to the variable. score = score +1
--	score--	subtracts 1 from thevariable. score = score +1
%	score%5	Returns the residue value after dividing score = score %5

modular → %

Comparison Operator

Operator	Comparison		
==	num==10	Equal to If(num==10)	if(name==“Jean”)
!=	num!=10	Not equal to If(num!=10)	if(name!=“Jean”)
>	num>10	Greater than If(num>10)	
<	num<10	Less than If(num<10)	
>=	num>=10	Greater than or equal to If(num>=10)	
<=	num<=10	Greater less than or equal to If(num<=10)	

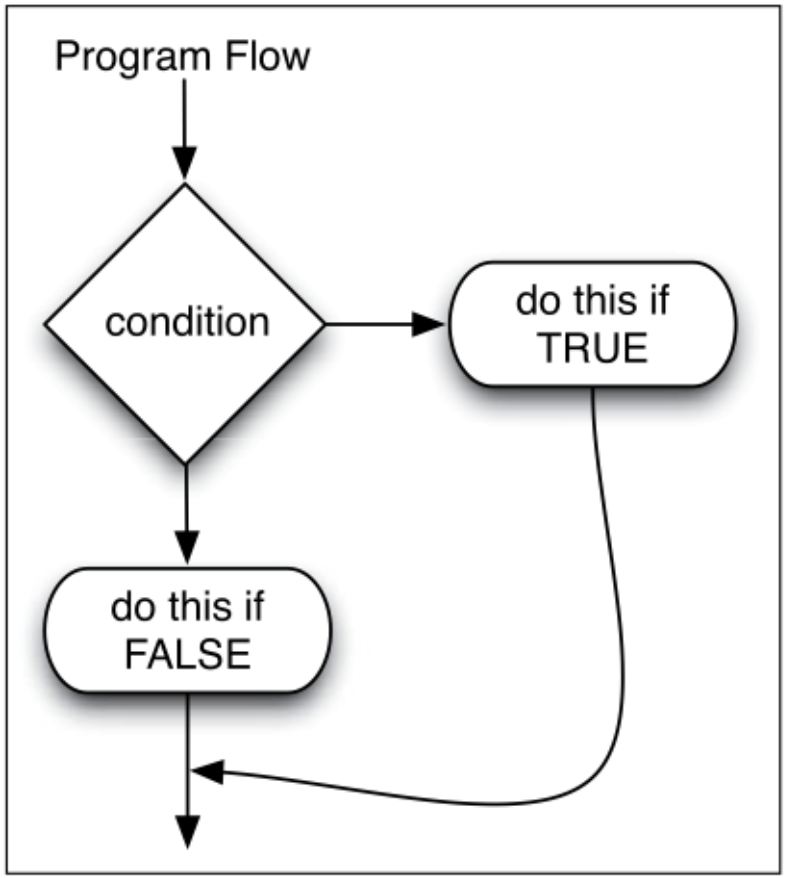
=

!

>

<

Conditionals




```
if (condition) {
statement(a);
}

else(){
anotherstatement(a);
}
```

Control Structure

Javascript way - Conditional

```
if (score>=100) {
document.write(“win!”);
}
```

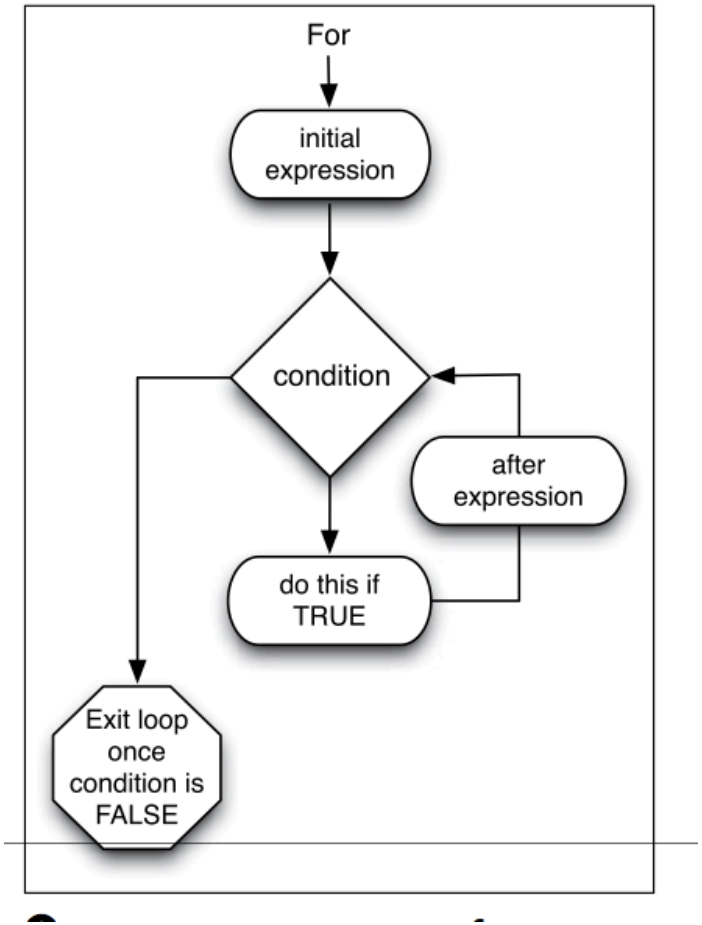
```
var x=document.form
["myForm"][”email"].value;

if (x==null) {
document.write(“error!”);
}
```

PHP way - Conditional

```
if ($score>=100) {
print “win!”;
}
```

```
if (empty($_POST['email'])) {
print ‘error!’;
}
```

Loops




```
for (initial statement;
test condition;
closing expression) {
    statement(a);
    }
```

```
while (test condition; ) {
    statement(a);
    }
```

Control Structure

Javascript way – For Loop

Initial statement Test condition Closing Expression

```
for (var i = 0; i <= 10; i++) {
    document.write(i);
    }
```

statement

PHP way – For Loop

```
for ($i = 0;  $i <= 10;  $i++) {
    print $i;
    }
```

Control Structure

Javascript way – While Loop

```
var i = 0;
```
Initial statement

```
while (i <= 10;) {
    document.write(i);
    i++;
    }
```
Test condition

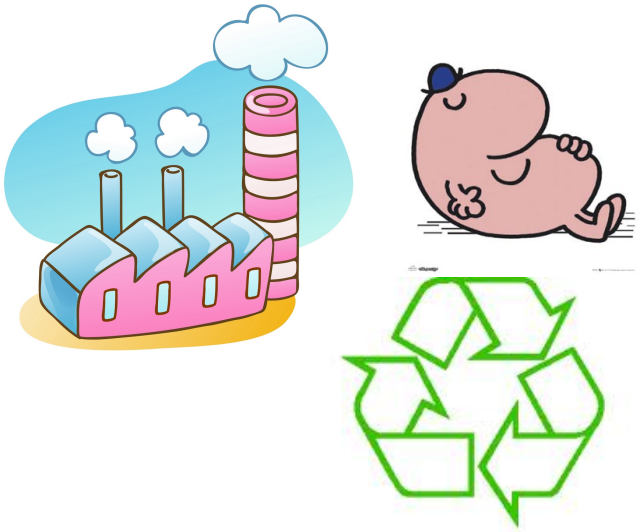
Closing Statement

PHP way - While Loop

```
$i = 0;
while ($i <= 10;) {
    echo i;
    i++;
    }
```

Functions

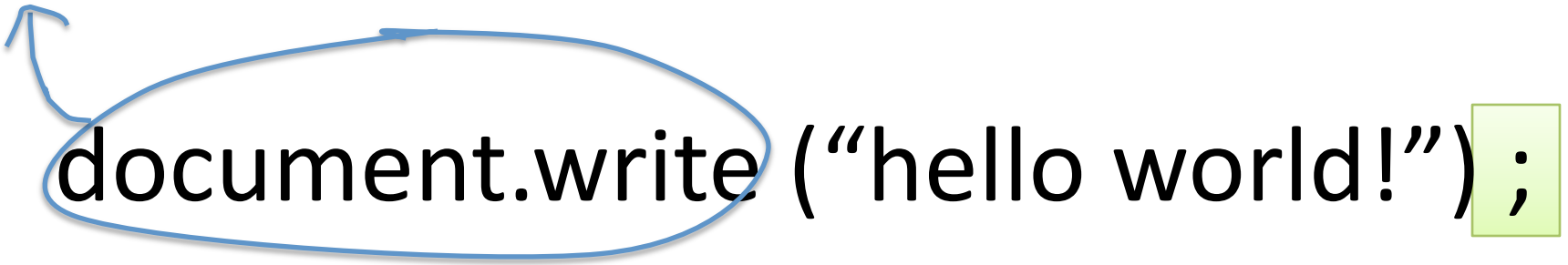
- Writing and using function is to **Reduce, Reuse, Recycle** your efforts on writing scripts



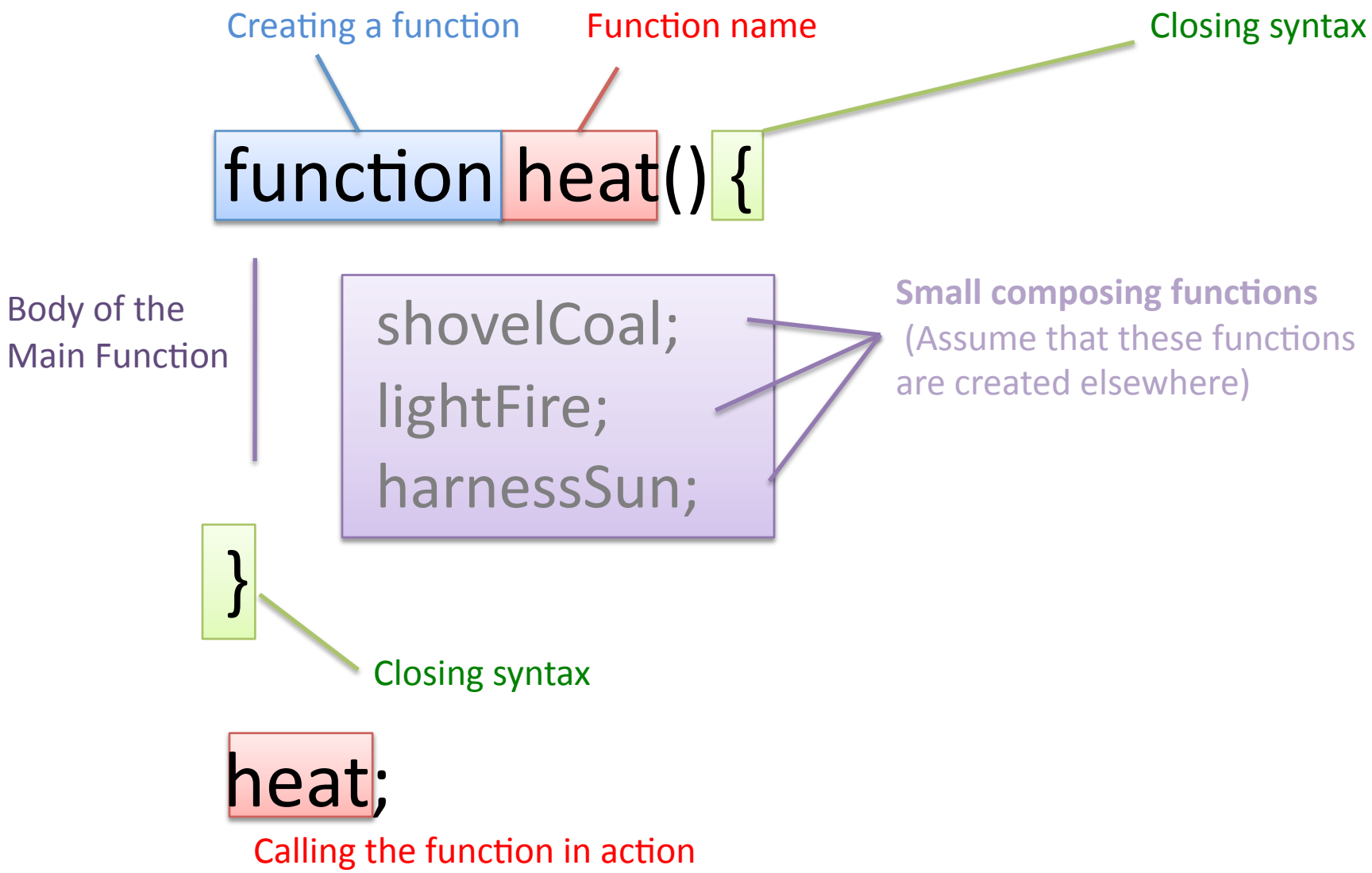
Not any more !

Functions

Built in Javascript functions



Creating my own Function



Function with Arguments

Argument

```
function heat  ( targetTemp ){
    if(targetTemp < 80){
    firestrength+=(currentTemp-targetTemp)*0.1;
    }
}

heat( 70 );
```

Returning Data from Function

Argument

```
function product ( a , b ) {
return a*b;
}
```

Argument

```
document.write( product( 4, 3 ) );
```

result

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Global and Local Variables

Global variables are defined outside from the function. Global variables can be called, or edited from any functions.

Local variables or arguments are defined inside of each functions. Local variables cannot be called, nor edited outside of that specific function.