

Javascript



μ μ

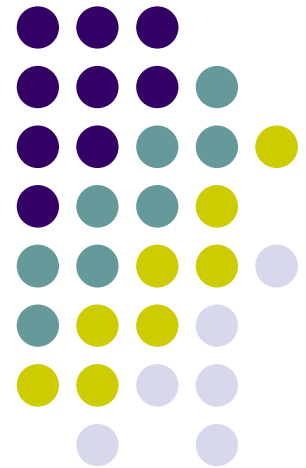
μ

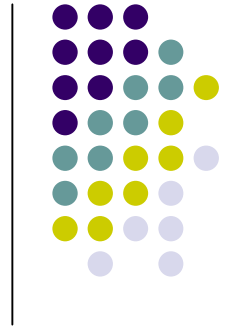
μ

&

.

μ





Netscape

- H JavaScript μ
Communication Corporation

- μ web browser Netscape Navigator

- web scripting

- μ LiveScript μ browser
Netscape Navigator 1995.

- μ JavaScript Sun
Java.

- H JavaScript μ
HTML

- (events) μ μ μ



- μ



- JavaScript (Object Oriented Scripting Language)

- Programming Language:

- « » (source code)
- (compiling)
- μ μ (binary code)
- binary code

- Scripting Language:

- « » (script) μ Interpreter
- μ μ JavaScript Javascript Interpreter
- browser (

JavaScript



- μ μ μ
 - μ μ (body)
 - μ pop-up
- μ μ μ μ μ
 - μ μ μ
- μ ()
- μ μ
- μ μ $\mu\mu$ browser
- browser μ browser
- μ μ plug-ins μ browser
- plug-in μ



μ - μ

μ :

μ Server

μ

client

μ hardware Server

μ :

browser

hardware Client

μ μ (browser browser)

JavaScript Interpreter

JavaScript Client μ

μμ μ

JavaScript



- ```
<head>
 scripts
 head
 <body>
```

```
<html>
<head>
<script type="text/javascript">
 Statements
</script>
</head>
```

- ```
<body>
  scripts
  script
  html
```

```
<html>
<head>
</head>
<body>
<script type="text/javascript">
  Statements
</script>
</body>
```


μ μ JavaScript



(keywords) JavaScript				
break	case	catch	continue	default
delete	do	else	finally	for
function	if	in	instanceof	new
return	switch	this	throw	try
typeof	var	void	while	with
(keywords) JavaScript				
abstract	boolean	byte	char	class
const	debugger	double	enum	export
extends	final	float	goto	implements
import	int	interface	long	native
package	private	protected	public	short
static	super	synchronized	throws	transient
volatile				



μ

- JavaScript μ (;
- μ μ μ :
- μ μ : μ μ μ var
- `var totalNumber;`
`var _eName;`
- `var totalNumber = 10;`
`var _eName = "Maria";`
- `H μ μ var μ`
`_eName = "Maria";`



μ

- μ
 - (integer)
 - (floating)
- μ (Boolean)
 - **True False**
 - True = 1, False = 0
- μ (Strings)
 - “Hello from JavaScript course”
- μ (**Objects**)
- μ **Null**
 - μ
 - Null ≠ 0

μ

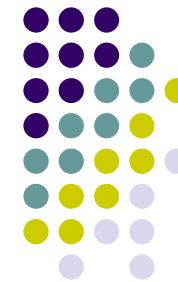


		μ	μ
+		x=2 x+2	4
-		x=2 5-x	3
*	μ	x=4 x*5	20
/		15/5 5/2	3 2.5
%		5%2 10%8 10%2	1 2 0
++		x=5 x++	x=6
--		x=5 x--	x=4

μμ μ



	μ	$\mu \mu$
$=$	$x=y$	$x=y$
$+=$	$x+=y$	$x=x+y$
$-=$	$x-=y$	$x=x-y$
$*=$	$x*=y$	$x=x*y$
$/=$	$x/=y$	$x=x/y$
$\%=$	$x\%=y$	$x=x\%y$



		μ
<code>==</code>		<code>5==8</code> false
<code>!=</code>		<code>5!=8</code> true
<code>></code>		<code>5>8</code> false
<code><</code>		<code>5<8</code> true
<code>>=</code>		<code>5>=8</code> false
<code><=</code>		<code>5<=8</code> true



		μ
&&	AND	x=6 y=3 (x < 10 && y > 1) true
	OR	x=6 y=3 (x == 5 y == 5) false
!	NOT	x=6 y=3 x != y true



- $\mu\mu$
 - $//$

```
<script type="text/javascript">
//Welcome message
var name = "Welcome to JavaScript course";
document.write(name);
</script>
```
- $\mu\mu$
 - $/* */$

```
<script type="text/javascript">
/* Welcome message
to visitors */
var name = "Welcome to JavaScript course";
document.write(name);
</script>
```




- Javascript μ (built-in)
 - μ
 - μ
- μ :
 - document.write, alert.
- Javascript case sensitive
 - μ : document.write
 - μ : Document.Write



- `document.write`

```
<script type="text/javascript">  
  document.write("Welcome to JavaScript course");  
</script>
```

Welcome to JavaScript course

- `document.writeln`

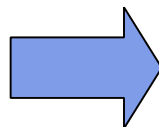
```
<script type="text/javascript">  
  document.writeln("Hello visitor");  
  document.writeln("Welcome to JavaScript course");  
</script>
```

Hello visitor Welcome to JavaScript course



- HTML μ JavaScript

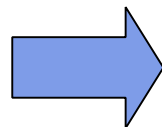
```
<script type="text/javascript">  
  document.write("Hello visitor<br>")  
  document.write("Welcome to JavaScript course")  
</script>
```



Hello visitor
Welcome to JavaScript course

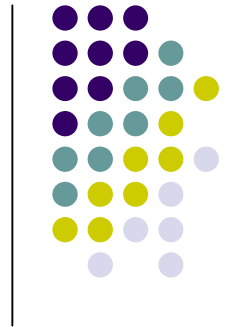
- JavaScript μ HTML

```
<h3>  
<script type="text/javascript">  
  document.write("Hello visitor<br>")  
  document.write("Welcome to JavaScript course")  
</script>  
</h3>
```



Hello visitor
Welcome to JavaScript course

Pop-up μ μ



pop-up μ μ (boxes)

- JavaScript
 - Alert box
 - Confirm box
 - Prompt box

- Alert box

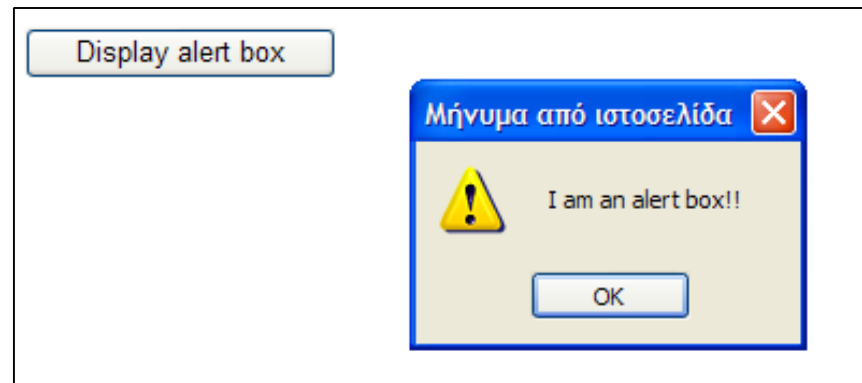
- μ « () μ μ μ
- Alert box μ :
- μ μ μ
- « μ »,
...
- : alert("text");



Alert Box

```
<html>
  <head>
    <script type="text/javascript">
      function displayAlertBox()
      {
        alert("I am an alert box!!")
      }
    </script>
  </head>

  <body>
    <form>
      <input type="button" onclick="displayAlertBox()" value="Display
      alert box">
    </form>
  </body>
</html>
```





Pop-up μ μ

- Confirm box

- μ () μ

- Confirm box μ :

- μ μ

- « μ »

- « μ CANCEL»

- , Confirm Box

- TRUE

- CANCEL, Confirm Box

- FALSE

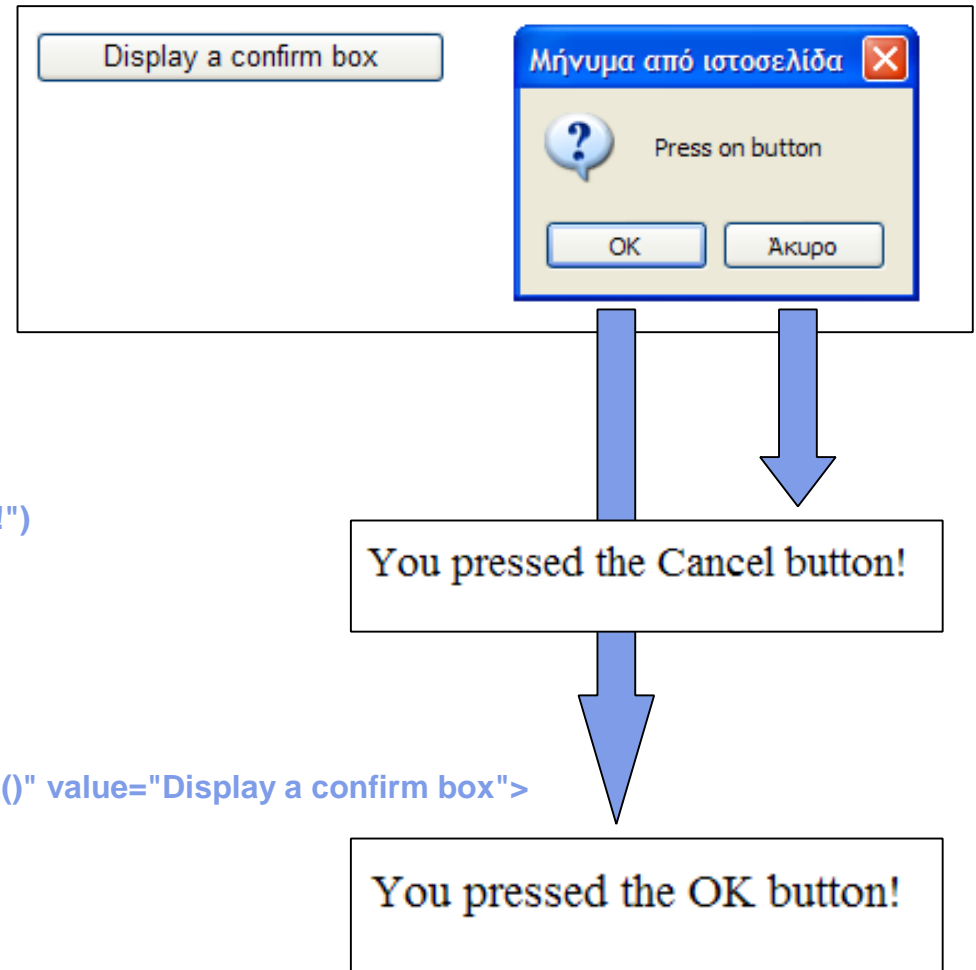
- : `confirm("text");`



Confirm Box

```
<html>
<head>
  <script type="text/javascript">
    function displayConfirmBox()
    {
      var result=confirm("Press on button")

      if (result==true)
      {
        document.write("You pressed the OK button!")
      }
      else
      {
        document.write("You pressed the Cancel button!")
      }
    }
  </script>
</head>
<body>
  <form>
    <input type="button" onclick="displayConfirmBox()" value="Display a confirm box">
  </form>
</body>
</html>
```





Pop-up μ μ

- Prompt box

- μ (μ) μ
- Confirm box μ :
 - μ μ
 - , μ μ μ) μ (
 - « μ »
 - « μ CANCEL»
- , Confirm Box
- μ
- CANCEL, Confirm Box
- NULL
- : `prompt("text","defaultvalue");`

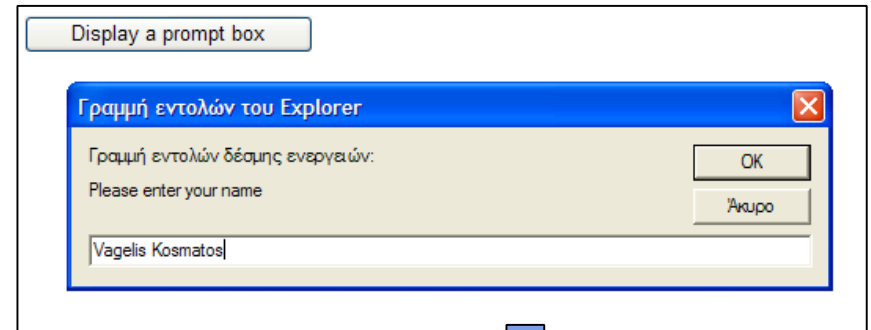


Prompt box

```
<html>
<head>
  <script type="text/javascript">
    function displayPromptBox()
    {
      var name=prompt("Please enter your name","")

      if (name!=null && name!="")
      {
        document.write("Hello " + name + ", welcome to JavaScript course.")
      }
    }
  </script>
</head>

<body>
  <form>
    <input type="button" onclick="displayPromptBox()" value="Display a prompt box">
  </form>
</body>
</html>
```



Hello Vagelis Kosmatos, welcome to JavaScript course.



μ

μ

- μ (String) μ (. . μ , prompt μ
- μ μ μ (. . μ μ μ
- μ μ parseInt() μ μ μ
- μ μ parseFloat() μ μ μ .

parseInt()



```
<html>
<head>
  <script type="text/javascript">
    function disp_prompt()
    {
      var total
      var num1 = parseInt(prompt("Please enter first number","0"))
      var num2 = parseInt(prompt("Please enter second number","0"))
      total = num1 + num2
      document.write(num1 + " + " + num2 + " = " + total)
    }
  </script>
</head>
<body>
  <form>
    <input type="button" onclick="disp_prompt()" value="Add two numbers">
  </form>
</body>
```



parseInt()

Add two numbers

Γραμμή εντολών του Explorer

Γραμμή εντολών δέσμης ενεργειών:
Please enter first number

OK
Άκυρο

Γραμμή εντολών του Explorer

Γραμμή εντολών δέσμης ενεργειών:
Please enter second number

OK
Άκυρο

$173 + 235 = 408$

parseInt():

$173 + 235 = 173235$



(conditional statements)

- μ
- JavaScript
 - if statement: $\mu \mu$
 - if ... else statement: $\mu \mu$
 - switch .. case statement: μ
 $\mu \mu$



If

-

```
if ( )  
{  
    }  
}
```

-

```
μ  
<script type="text/javascript">  
var d=new Date()  
var time=d.getHours()  
if (time<10)  
    {document.write("<b>Good morning</b>")}  
</script>
```



If....else

- ```
if ()
{
}
else
{
}
```

- ```
μ  
<script type="text/javascript">  
var num1 = prompt ("Enter a number", "0")  
var balance = num1%2  
  
if (balance == 0)  
    document.write(num1 + " is EVEN")  
else  
    document.write(num1 + " is ODD")  
</script>
```

switch



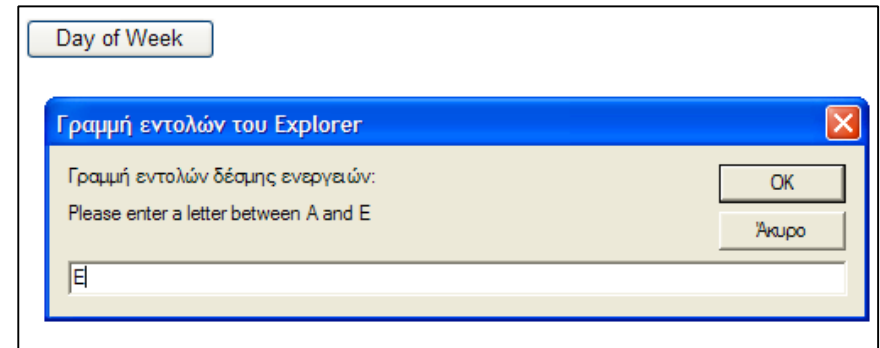
```
• switch(n)
{
  case 1:
    μ μ      1
    break
  case 2:
    μ μ      2
    break
  default:
    n
}
case 1  2
```


switch



```
<html>
<head>
  <script type="text/javascript">
    function disp_prompt()
    {
      var day = prompt("Please enter a letter between A and E","A")

      switch(day)
      {
        case "A" : case "D" : document.write("Sunday")
          break
        case "B" : case "E" : document.write("Monday")
          break
        case "C" : document.write("Tuesday")
          break
        default : document.write("Invalid Entry")
          break
      }
    }
  </script>
</head>
<body>
  <form>
    <input type="button" onclick="disp_prompt()" value="Day of Week">
  </form>
</body>
</html>
```



Monday



-

μ
μ μ

μ

- JavaScript μ

:

- **for:** μ μ μ

- **while:** μ μ μ

- **do .. while:** μ μ μ

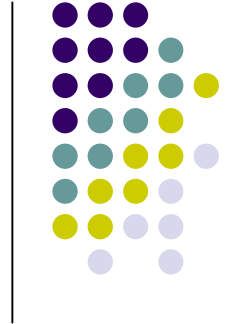


for

- ```
for (var=startValue ; var<=endValue ; var=var+increment)
{
}
```
- ```
for(num = 1; num < 5; num++)
{
  document.write("<p>" + num + ". Welcome to JavaScript
  course")
}
```

```
1. Welcome to JavaScript course
2. Welcome to JavaScript course
3. Welcome to JavaScript course
4. Welcome to JavaScript course
```

while



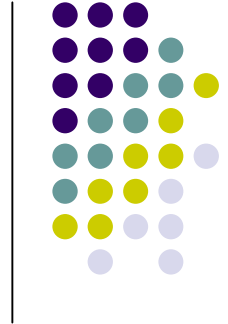
- while

```
while ( )  
{ }  
μ μ
```

- μ
var num = 1;
while (num<5)
{
 document.write("<p>" + num + ". Welcome to JavaScript
 course")
 num++
}

```
1. Welcome to JavaScript course  
2. Welcome to JavaScript course  
3. Welcome to JavaScript course  
4. Welcome to JavaScript course
```

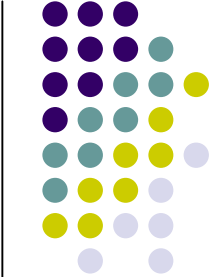
do while



- do while
 - while
- ```
do
{
while ()
}
```

- ```
var num = 4;  
do  
{  
  document.write("<p>" + num + " Iteration of do  
while loop")  
  num--  
}  
while (num>0)
```

```
4 Iteration of do while loop  
3 Iteration of do while loop  
2 Iteration of do while loop  
1 Iteration of do while loop
```



•

•

•

•

μ

•

•

•

•

•

•

μ

μ

μ

<head>

<body>

(.js)

,

«

»

browser,

<head>

.

μ

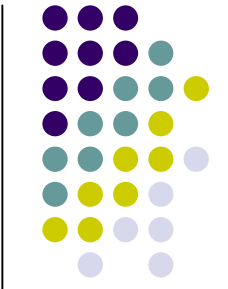
μ

μ

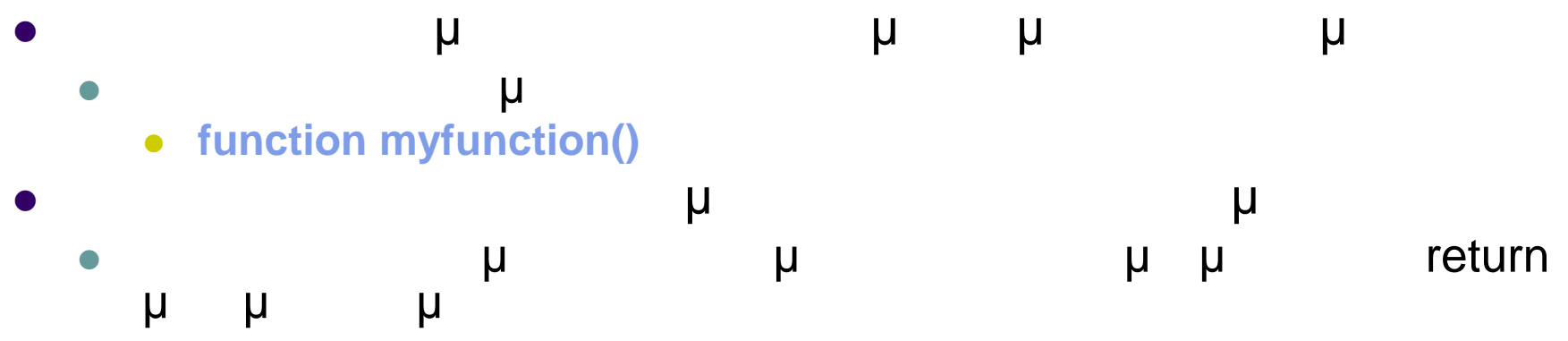
μ

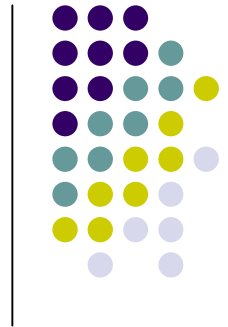
μμ

μ

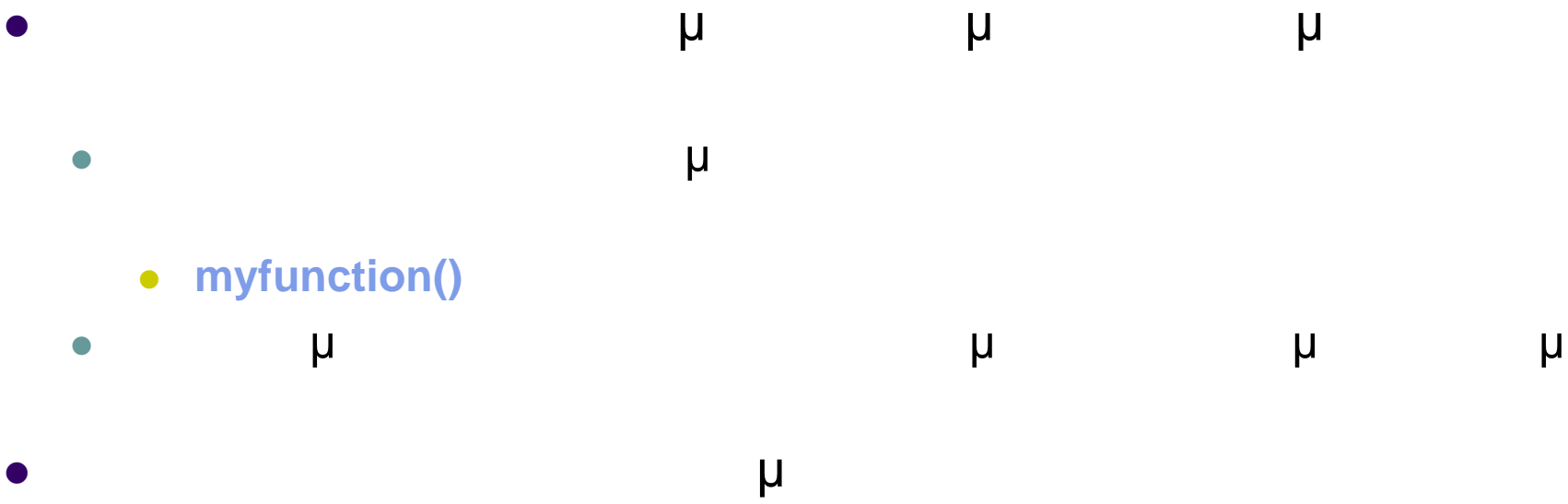


```
function myfunction ( 1, 2, ...,  
{  
    return result //  
}
```





myfunction (μ 1, μ 2, ..., μ N);





```
: function helloFunction(message)
  {
    alert(message)
  }
```

```
: helloFunction('Hello, have a nice day!');
```

```
: function helloFunction()
  {
    return ("Hello, have a nice day!");
  }
```

```
: message = helloFunction();
```



```
: function subtraction(a,b)
  {
    temp = a - b;
    return temp;
  }
```

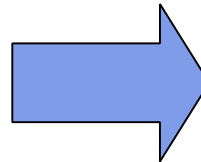
```
: result = subtraction(10,8);
```

```
: function subtraction(a,b)
  {
    temp = a - b;
    alert(temp);
  }
```

```
: subtraction(10,8);
```

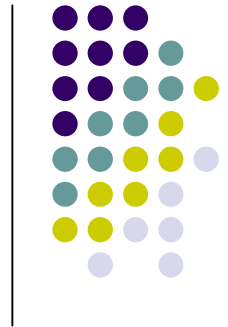


```
<html>
<head>
  <script type="text/javascript">
    function total(numberA,numberB)
    {
      return numberA + numberB
    }
  </script>
</head>
```



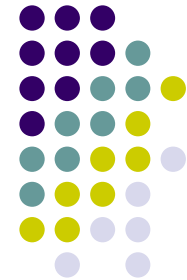
29

```
<body>
  <h1 align="center">
  <script type="text/javascript">
    document.write(total(12,17))
  </script>
  </h1>
</body>
</html>
```

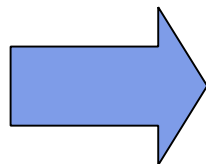



-
- length μ
-
- join() μ (String)
-
- reverse() μ
- sort() μ

$\mu\mu$ μ



```
<script type="text/javascript">  
var myfriends = new Array(3)  
myfriends[0] = "Nick"  
myfriends[1] = "Jim"  
myfriends[2] = "Maria"  
document.write(myfriends.length + "<br>")  
document.write(myfriends.join(".") + "<br>")  
document.write(myfriends.reverse() + "<br>")  
document.write(myfriends.sort() + "<br>")  
</script>
```



```
3  
Nick.Jim.Maria  
Maria,Jim,Nick  
Jim,Maria,Nick
```