Variable Scope

Local	inside the function	local scope < memory
Global	outside of the function	global scope >memory

```
function getArea (width, height) {
        var area=width*height;
        return area;
}
var wallOne=getArea(3,5);
Document.write(wallOne);
```

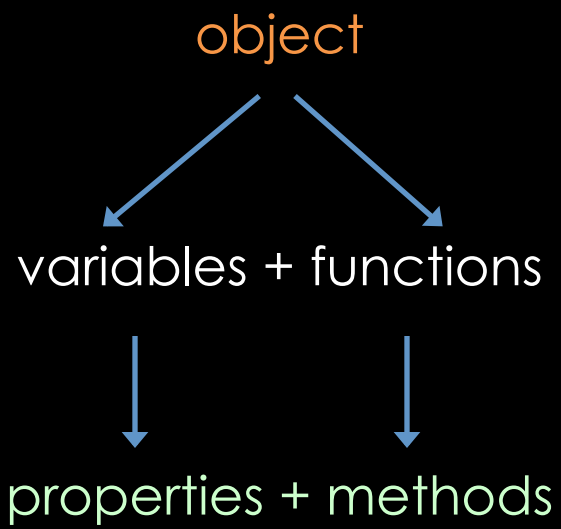
Variable Scope

Exercise:

Create a function to calculate and write in the body of the html document the full price, discount and the discounted price

Object

A group of variables and functions ex. hotel object



Object

Properties — describe the objects (ex. name, # of rooms, etc.)

Methods — describe tasks associated with the object (ex. check availability of hotel rooms)

Object

A group of variables and functions ex. hotel object

```
var hotel ={
Name: ‘Quay;,
rooms:40,
Booked:25,
Chackavailability: function() {
Return.this.rooms – this.booked;
}
```

Accessing an Object

```
var hotelName= hotel.name;
Var roomsFree=hotel.checkAvailabitlity();


}
```

Accessing an Object

```
var hotel = {
name : 'Quay',
rooms : 40,
 booked : 25,
checkAvailability : function() {
return this.rooms - this.booked;
} }

document.write(hotel.checkAvailability());
```

Constructor

```
var hotel = new Object () ;                          //properties
hotel.name : 'Quay',
hotel.rooms : 40,
hotel.booked : 25,
hotel.checkAvailability : function() {               //method
return this.rooms - this.booked;
} }

document.write(hotel.checkAvailability());
```

Constructor

New keyword

Object () constructor

Constructor

hotel . name = ‘Park’;

Object . property = value

Constructor – function3.html

```
function Hotel(name, rooms, booked)
 { this.name = name;
this.rooms = rooms;
this.booked = booked;
this.checkAvailability = function() {
return this.rooms - this.booked; }; }

var quayHotel = new Hotel('Quay', 40, 25);
var parkHotel = new Hotel('Park', 120, 77);
```

this

Keyword

Refers to the object itself

```
var width=600;
var shape={width:300};
var showWidth=function() {
document.write(this.width);
};
showWidth();
```

Objects

Browser
object model

JavaScript
Global objects

Document
Object model
(DOM)

Representation
of the current
wen page

Browser object model

window	current browser window
document	current webpage
history	pages in browser history
location	URL of current page
navigation	info about browser
screen	device's display info

window.screen.width;	returns the width of the device's screen in pixels

Browser object model - properties

innerHeight	Returns the inner height of a window's content area
innerWidth	Returns the inner width of a window's content area
location	Returns the Location object for the window
pageXOffset	Returns the pixels the current document has been scrolled (horizontally) from the upper left corner of the window
pageYOffset	Returns the pixels the current document has been scrolled (vertically) from the upper left corner of the window

Browser object model - properties

screen	Returns the Screen object for the window
screenX	Returns the x coordinate of the window relative to the screen
screenY	Returns the y coordinate of the window relative to the screen

Browser object model - methods

alert()	opens dialog box
open()	opens new browser window
print()	prints content of the webpage

Browser object model – window_object.html and .js

.js	external JavaScript file
.css	external styles file
.html	HTML document

Document object model

document	current webpage
<html>	
<head>	
<body>	
<p>	
document.getElementById()	method gets element by the value of its ID attribute

Document object model - properties

document.ttitle	title of the doc
document.lastModified	date on which dopc was last modified
Document.URL	returns string with URL of the doc
document.domain	returns domain of the current doc

Document object model - methods

document.write()	writes text to docuemnt
document.getElementById()	returns element with matching ID
document.createElement()	creates new element
document.createTextNode()	creates new text node

Document object model – document_object.html &js

Document – object.html

. Js

Global JavaScript objects

String	for working with string values
Math	for working with numbers and calculations
Date	to represent and handle dates

Math.PI();	Math's object PI property will return the value of PI

Global JavaScript objects - String

var saying='Home sweet home';

toUpperCase() changes string to upper case

toLowerCase() changes string to lower case

Saying.toUpperCase(); 'HOME SWEET HOME'

Global JavaScript objects - String

Property:

length	Returns the length of a string

Methods:

charAt()	Returns the character at the specified index (position)
concat()	Joins two or more strings, and returns a new joined strings
fromCharCode()	Converts Unicode values to characters

Global JavaScript objects - Math

Property:

PI	Returns pi

Methods:

Math.round()	rounds number to the nearest integer
Math.sqrt()	returns square root of the positive number
Math.ceil()	rounds number up to the nearest integer
Math.floor()	rounds number down to the nearest integer
Math.random()	generates a random number between 0 & 1

Global JavaScript objects - Math

```
// Create a variable to hold a random number between 1 and 10
var randomNum = Math.floor((Math.random() * 10) + 1);


// Create a variable called el to hold the element whose id attribute has a value of info
var el = document.getElementById('info');
// Write the number into that element
el.innerHTML = '<h2>random number</h2><p>' + randomNum + '</p>';
```

Global JavaScript objects – Math- random.html

```
<html>
<head>
<title>Random Script</title>
<script>
var myPix = new Array("images/red.gif","images/green.gif","images/
blue.gif")
var thisPic = 0;
```

Global JavaScript objects – Math- random.html

```
function choosePic() {
      if(document.images) {
        randomNum = Math.floor(Math.random()*myPix.length)
        document.image.src=myPix[randomNum]
           }
    }
</script>
```

Global JavaScript objects – Math- random.html

```
</head>
<body onLoad="choosePic()">

<img src="images/red.gif" name ="image">
</body>
</html>
```

Global JavaScript objects – Math

Ex. Math_object.html

Global JavaScript objects – Math

Exercise