

Subject : Information Technology

Standard : 12th Science.

Chapter No. 3 : Advanced JavaScript.

Topic Name : Objects in JavaScript.

Objects in JavaScript :

- JavaScript is an object based scripting language.
- Almost everything is an object in JavaScript.
- A JavaScript object is an entity having state (properties) and behavior (Methods).
- An object can group data together with functions needed to manipulate it.
- Look around you, you will find many examples of real world objects.
- Such as table, board, television, bicycle, shop, bus, car, monitor etc.

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Objects in JavaScript :

- All these tangible things are known as Objects.
- Take an example of car object. It has properties like name, model, weight, colour etc. and methods like start, stop, brake etc.
- All cars have same properties but contain different values from car to car.
- All cars have same methods but perform differently.

(Cont.)

Objects in JavaScript :

Object	Properties	Method
Car	Car. Name =Ferrari	Car . Stat ()
	Car . Model = F430	Car . Drive ()
	Car . Weight = 1517 kg	Car . Break ()
	Car . Color = Red	Car . Stop ()

Objects in JavaScript :

- Properties and methods of object's are accessed with '.' operator. JavaScript supports 2 type of objects built-in objects and user defined objects.
1. Built in objects such as Math, String, Array, Date etc.
 2. JavaScript gives facility to create user defined objects as per user requirements. The 'new' keyword is used to create new object in JavaScript.

e.g.

```
d=new Date();
```

// 'd' is new instance created for Date object.

DOM (Document Object Model) :

- When HTML document is loaded into a web browser, it becomes a document object.
- It defines logical structure of document.
- The way in which HTML document content is accessed and modified is called as Document Object Model.
- It is programming interface for HTML and XML (Extensible Markup Language) documents.
- The standardization of DOM was founded by W3C (World Wide Web Consortium) which work for standardization of web technologies.

Following are some of the predefined properties for DOM object :

PROPERTY	DESCRIPTION
Head	Returns the < head> element f the document.
title	Sets or returns title of the document.
URL	Returns full URL of the HTML document.
Body, img	Returns <body>, elements respectively.

Following are some of the predefined methods for DOM object :

METHOD	DESCRIPTION
write()	Writes HTML expressions or JavaScript code to a document.
WriteIn()	Same as write() but adds a newline character after each statement.
getElementById()	There are many ways of accessing form elements, of which the easiest is by getElementById() method. In which id property is used to find an element.

The innerHTML Property :

- The innerHTML Property is useful for getting html element and changing it's content.
- The innerHTML Property can be used to get or change any HTML element, including `<html>` and `<body>`.

Window Object :

- At the very top of the object hierarchy is the window object.
- Window object is parent object of all other objects. It represents an open window in a browser.
- An object of window is created automatically by the browser.
- Window object represents an open window in a browser. An object of window is created automatically by the browser.

Following table shows some of the properties for window object :

PROPERTY	DESCRIPTION
name	Sets or returns the name of a window.
location	Returns the Location object for the window.
document	Returns the Document object for the window.
status	Set or return the text in the status bar of a window.
closed	Returns a Boolean value indicating whether a window has been closed or not.

Following table shows some of the methods for window object :

METHOD	DESCRIPTION
alert()	Displays the alert box containing message with ok button.
confirm()	Displays the confirm dialog box containing message with ok and cancel button.
prompt()	Displays a dialog box to get input from the user..
open()	Opens the new window.
close()	Closes the current window.
blur()	Removes focus from current window.
focus()	Sets focus to the current window

Following table shows some of the methods for window object :

METHOD	DESCRIPTION
print()	Prints the content of current window.
setTimeout()	Calls a function or evaluates an expression after a specified number of milliseconds.

THANK YOU.
