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WEB TECHNOLOGIES

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JavaScript

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JavaScript

A scripting language is a lightweight programming language.

JvaScript is a scripting language designed primarily for adding interactivity to Web pages and creating Web applications.

Origins of JavaScript

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Originally developed by Netscape, as LiveScript
Became a joint venture of Netscape and Sun in 1995, renamed JavaScript
Now standardized by the European Computer Manufacturers Association as ECMA-262
An HTML-embedded scripting language
We'll call collections of JavaScript code *scripts*, not programs

Syntactic Characteristics

Identifier form: begin with a letter or underscore, followed by any number of letters, underscores, and digits

Case sensitive

25 reserved words, plus future reserved words

Comments: both // and /* … */

Scripts are usually hidden from browsers that do not include JavaScript interpreters by putting them in special comments

```
<!--
-- JavaScript script -
//-->
```

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JavaScript reserved words

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Break,delete,function,return,typeof,case,do,if,switch,var,catch,else, in,this,void,continue,finally.instanceof,throw,while,default,for,new,try,with

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JavaScript Datatypes

- All primitive values have one of the five types: Number, String, Boolean, Undefined, or Null
- Number, String, and Boolean (**wrapper objects)**
- The purpose of wrapper objects is to provide properties and methods that are convenient for use with values of the corresponding primitive type.

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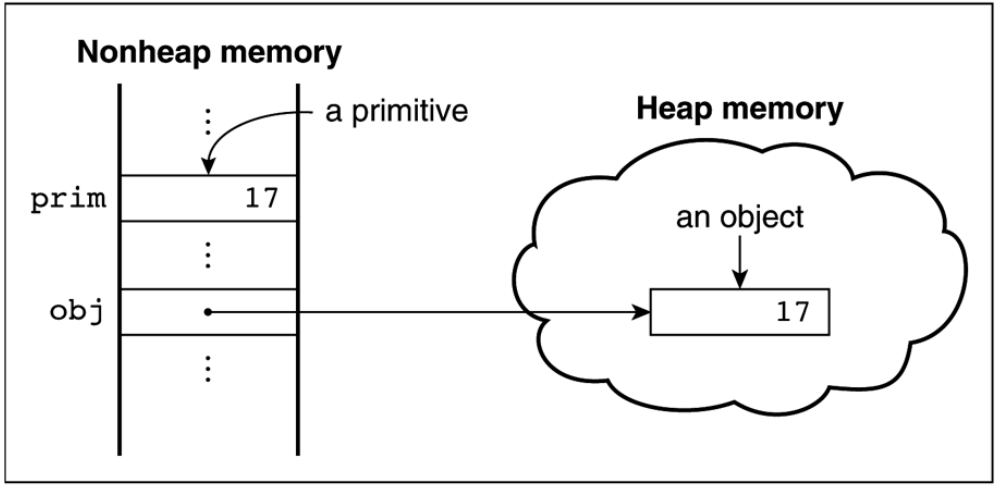

`String` Object

- The number of characters in a string is stored in the `length` property

```
var str = "George";
var len = str.length;
```

- Common methods:

Method	Parameters	Result
`charAt`	A number	The character in the `String` object that is at the specified position
`indexOf`	One-character string	The position in the `String` object of the parameter
`substring`	Two numbers	The substring of the `String` object from the first parameter position to the second
`toLowerCase`	None	Converts any uppercase letters in the string to lowercase
`toUpperCase`	None	Converts any lowercase letters in the string to uppercase

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Math and Number Objects

- The `Math` Object provides `floor`, `round`, `max`, `min`, trig functions, etc.
  - e.g., `Math.cos(x)`
- The `Number` Object has some useful properties

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Property	Meaning
`MAX_VALUE`	Largest representable number
`MIN_VALUE`	Smallest representable number
`NaN`	Not a number
`POSITIVE_INFINITY`	Special value to represent infinity
`NEGATIVE_INFINITY`	Special value to represent negative infinity
`PI`	The value of π

Date Object

- Create one with the Date constructor (no params)

```
var today = new Date();
```

- Local time methods of Date:
  - toLocaleString – returns a string of the date
  - getDate – returns the day of the month
  - getMonth – returns the month of the year (0 – 11)
  - getDay – returns the day of the week (0 – 6)
  - getFullYear – returns the year
  - getTime – returns the number of milliseconds since January 1, 1970
  - getHours – returns the hour (0 – 23)
  - getMinutes – returns the minutes (0 – 59)
  - getMilliseconds – returns the millisecond (0 – 999)

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Thank You!

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