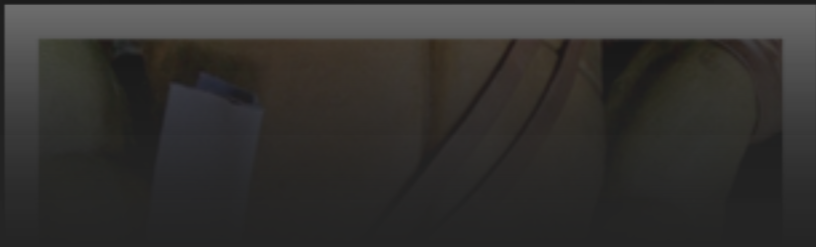
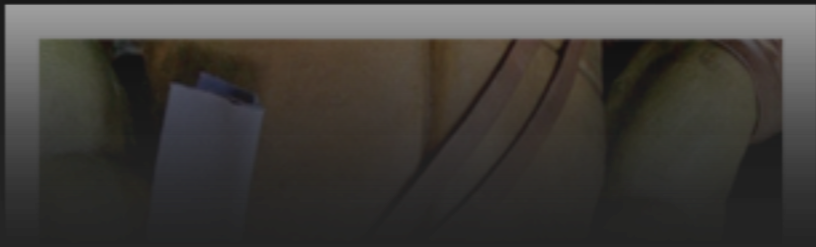
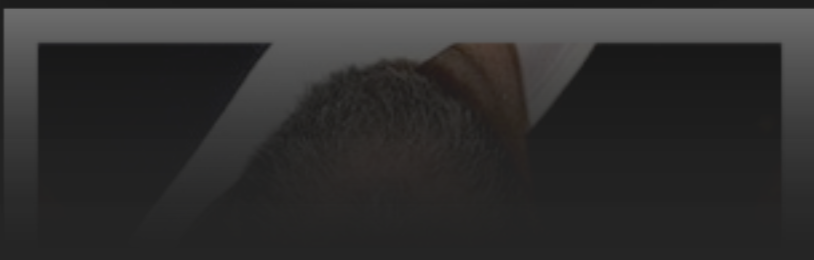
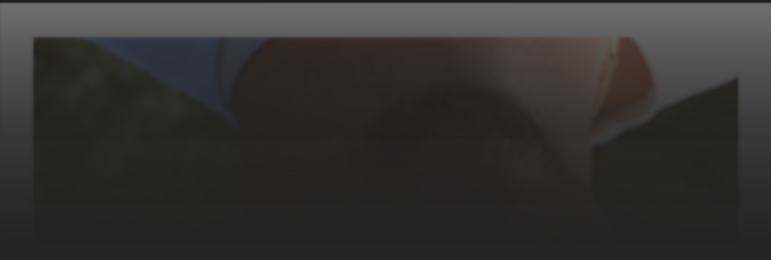
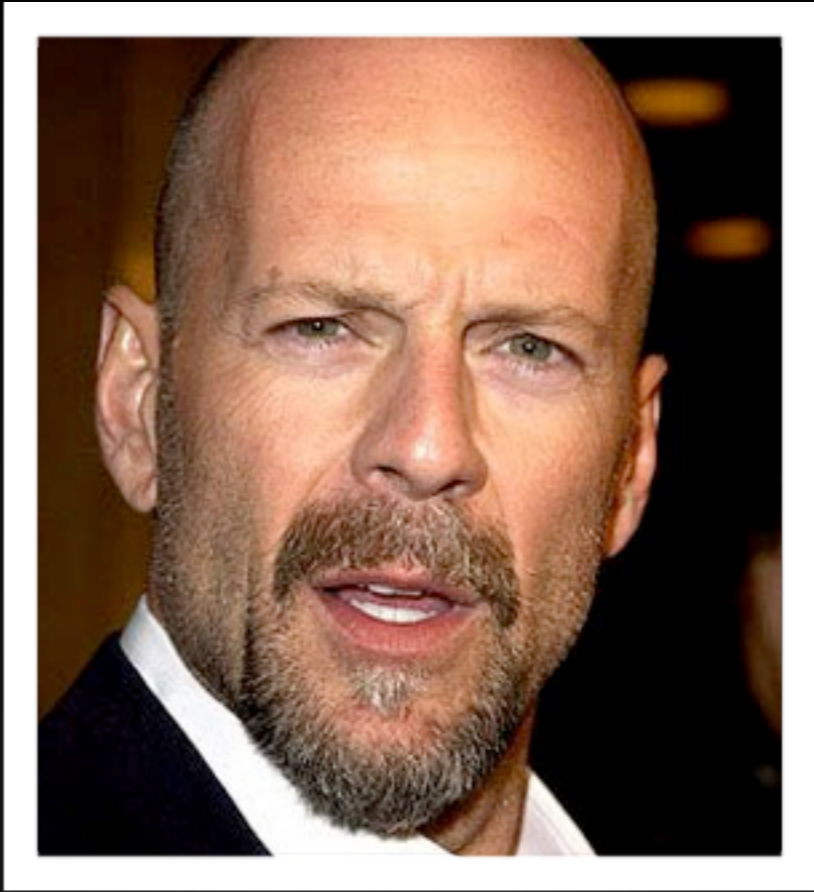


JavaScript

Like a Box of Chocolates



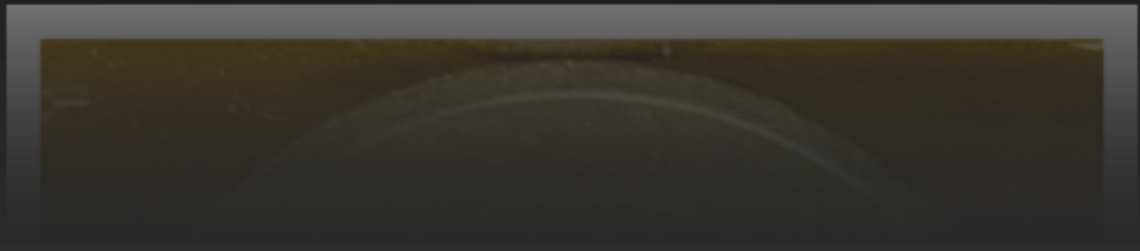






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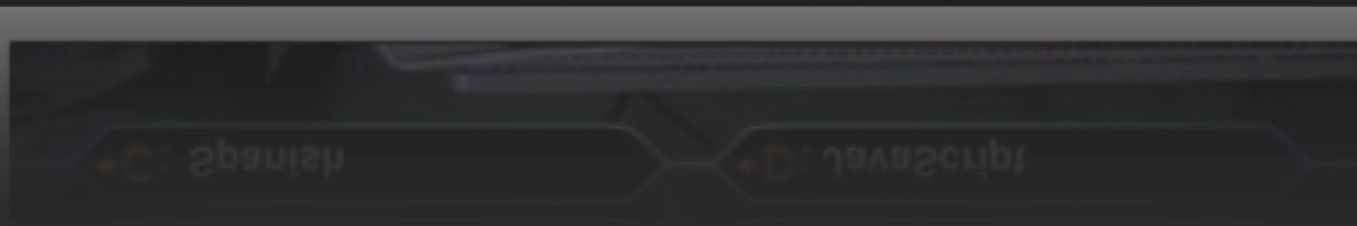
What is the world's most popular language?

•A: French

•B: English

•C: Spanish

•D: JavaScript







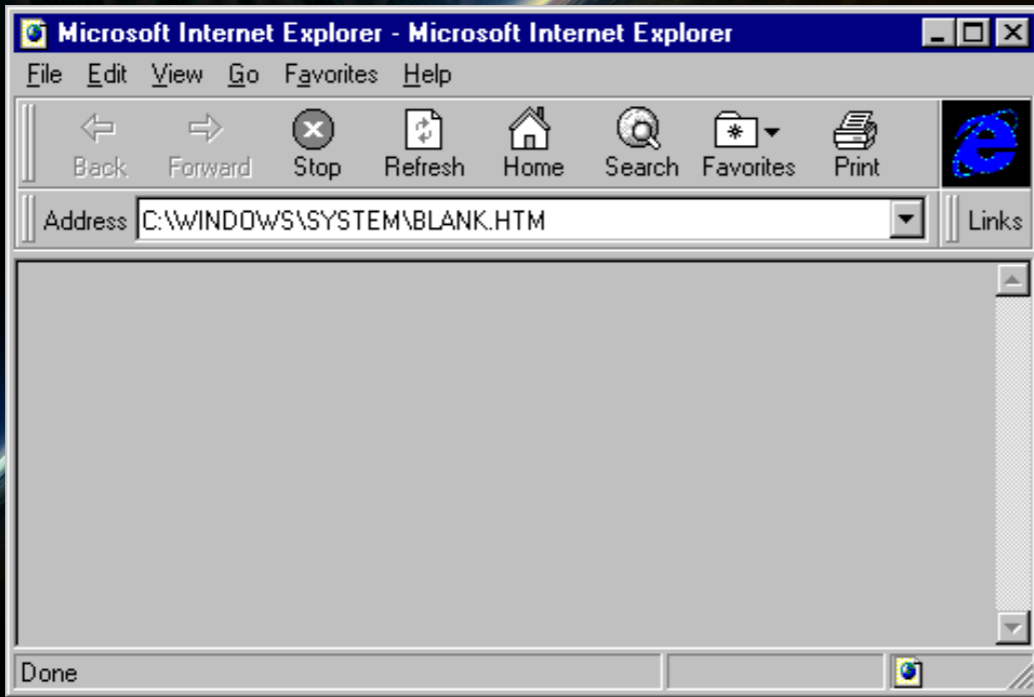


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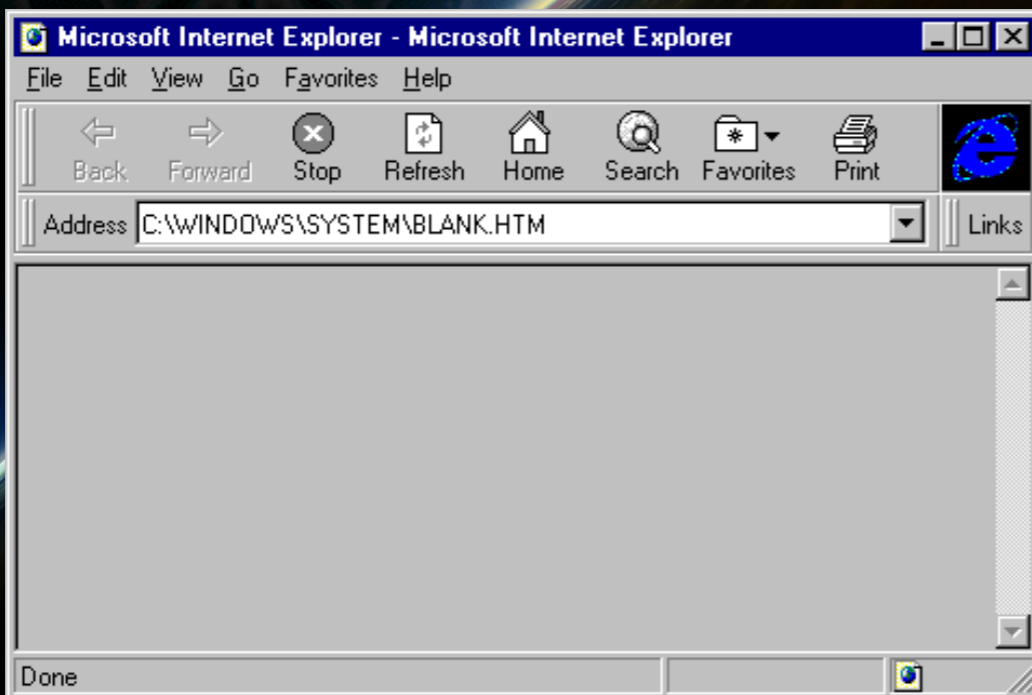


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“Are you telling me that I can’t get away anymore without getting deeply into Javascript?”

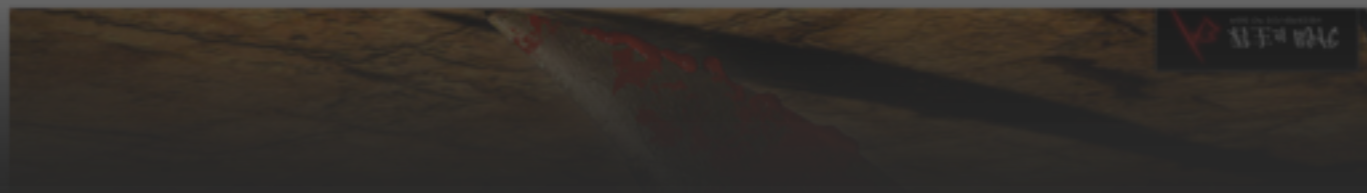
- Developer

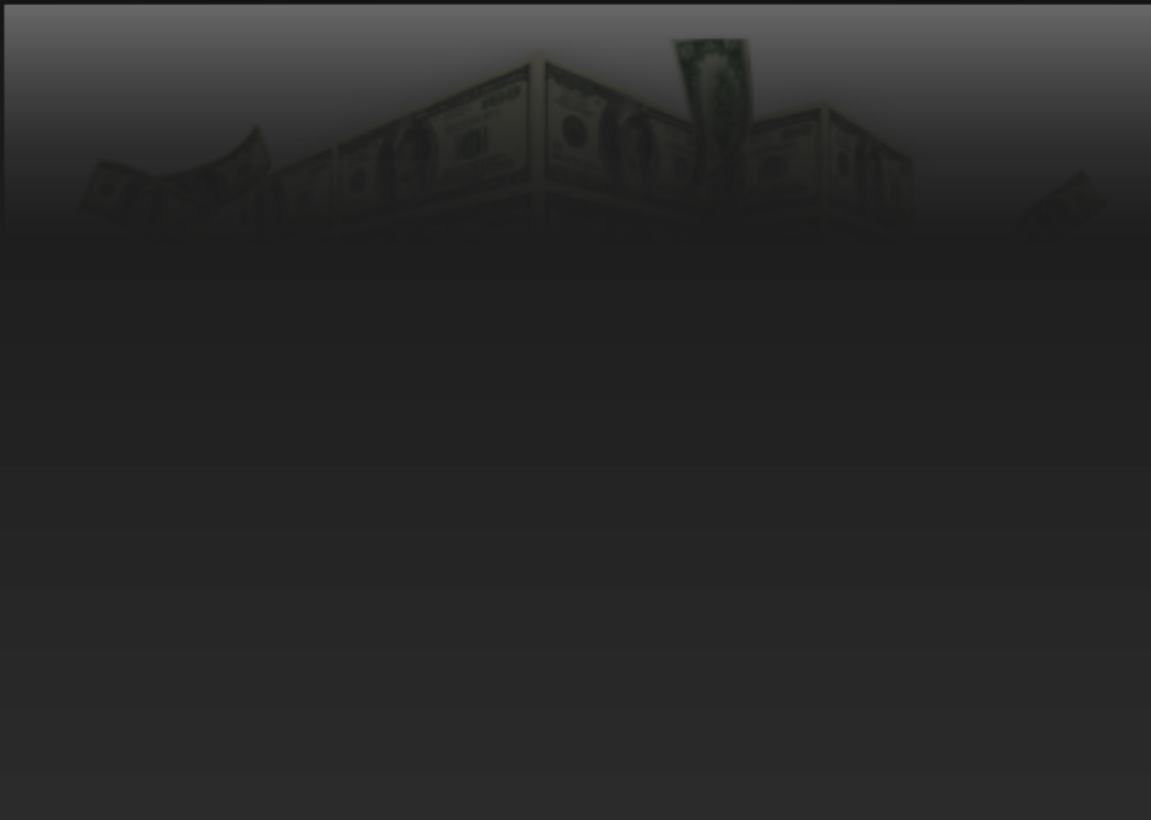
“That is a disaster for me! I have made a career out of actively avoiding Javascript.”

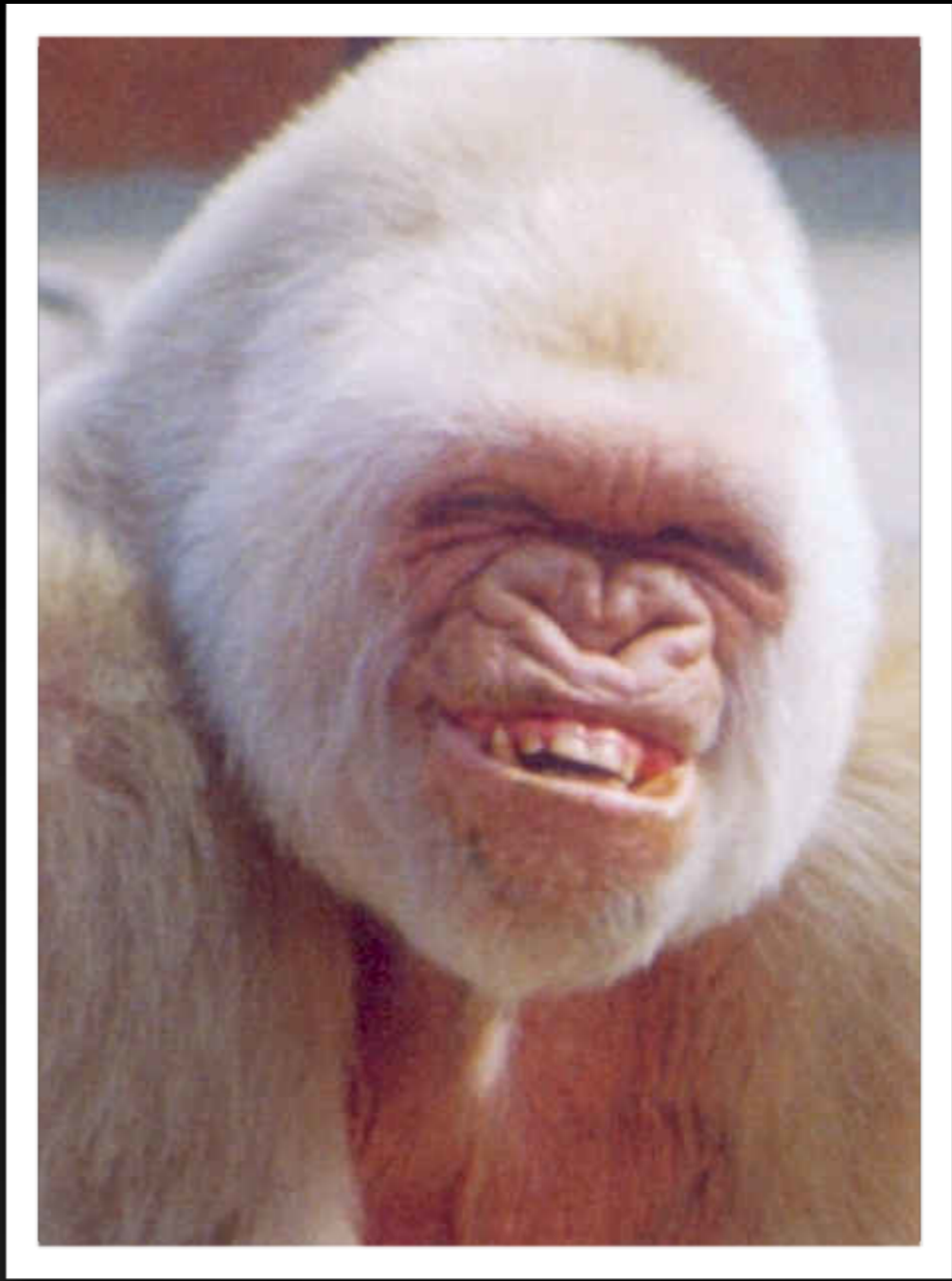
- Developer

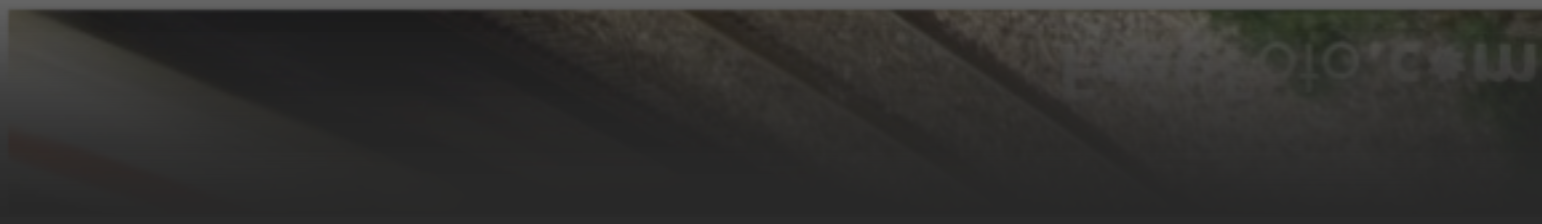
“If I cant continue to ignore Javascript, then you may as well amputate one of my limbs.”

- Developer



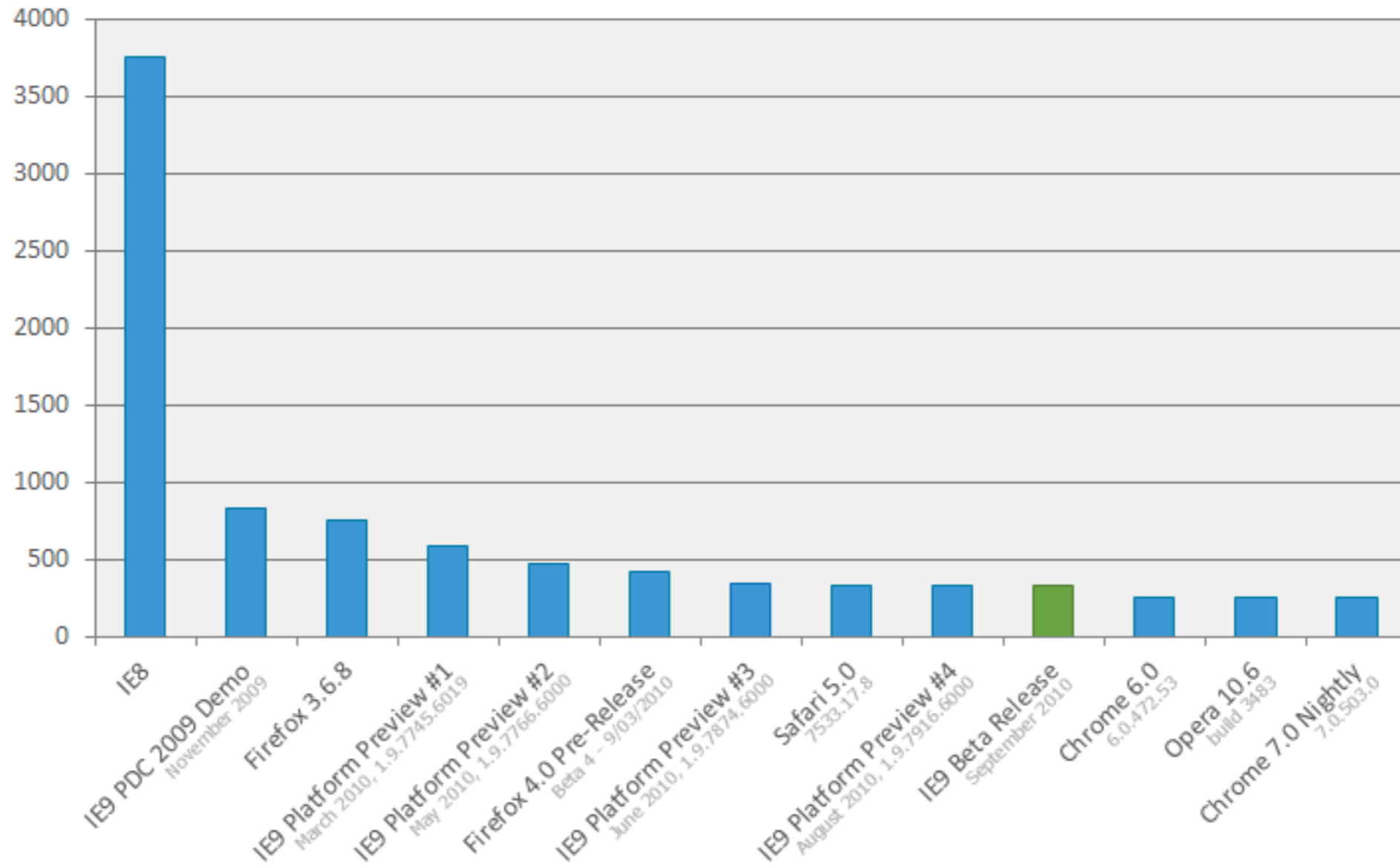






WebKit SunSpider JavaScript Benchmark Results

Version 0.9.1, Results Generated September 4th 2010



Tom
Hanks
Forrest
Gump



```
// Variable declaration
var firstName = "Forrest";

// Function declaration
function saying () {
    return "Stupid is as stupid does";
}
```

```
// If statement
if (badGrades) {
    return "Mom sleeps with teacher";
}
```

```
// Switch statement
var age = 10,
    lifeState;
switch (age) {
    case 10:
        lifeState = "Young";
        break;
    case 60:
        lifeState = "Old";
        break;
}
```

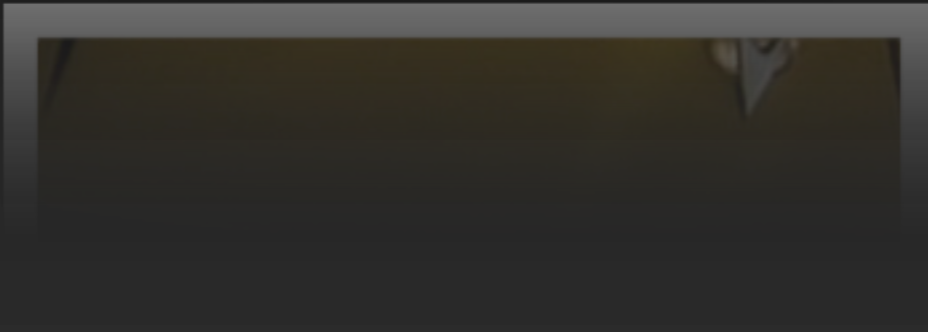
```
// Object literal  
var forrest = {  
    firstName : "Forrest"  
};
```

```
// Array literal  
var forrestFriends = ["Bubba", "Lieutenant Dan"];
```

```
// Shorthand assignment
function (boxOfChocolates) {
    var life = boxOfChocolates || "Snickers bar";
}
```

```
// Ternary operators
(looking)? "I gotta find Bubba!" : "It's ok";
```

```
// Short-circuit logic
if (obj && obj.property) {
    obj.property = "Lieutenant Dan, I got you some ice cream";
}
```

string

number

boolean

null

undefined

object

string

number

boolean

null

undefined

object



Array

Date

function

RegExp

```
// Variable declaration
var firstName = "Forrest";

// Function declaration
function party () {
    return "Stupid is as stupid does";
}

typeof firstName // string
typeof party // function
```

```
// Object declaration
```

```
var forrest = {  
    firstName : "Forrest"  
};
```

```
// Array declaration
```

```
var forrestFriends = ["Bubba", "Lieutenant Dan"];
```

```
typeof forrest // object
```

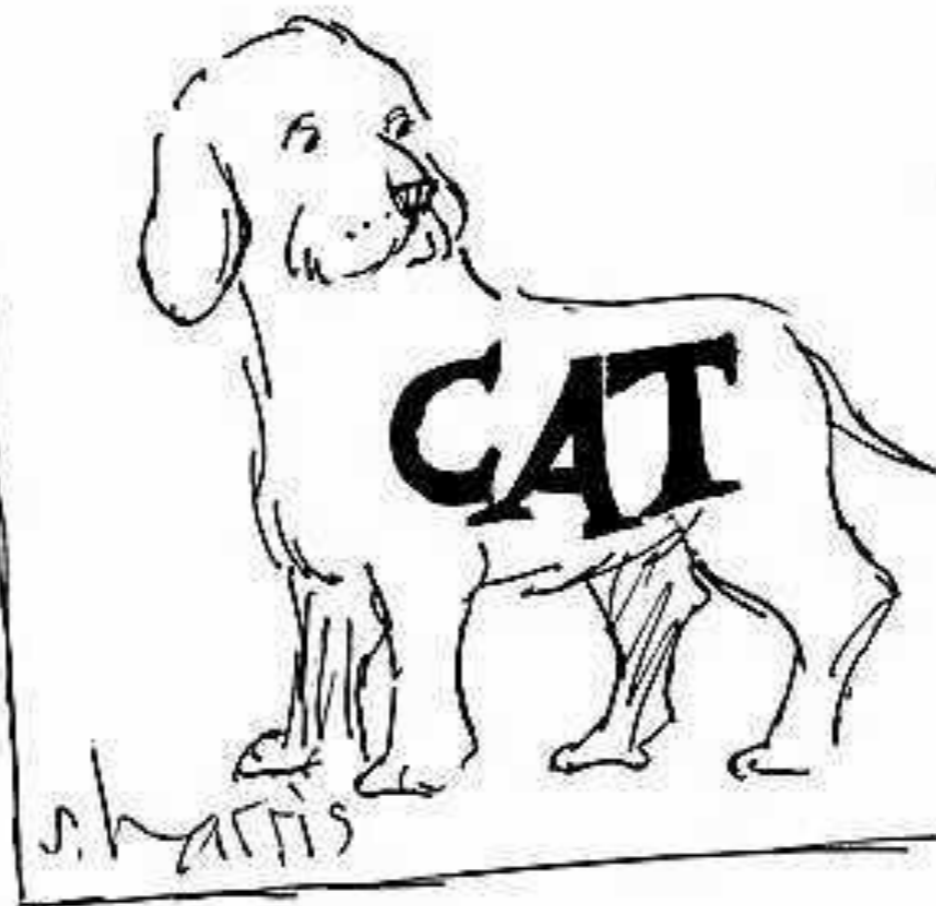
```
typeof forrestFriends // object
```

```
// Object declaration
var forrest = {
    firstName : "Forrest"
};
```

```
// Array declaration
var forrestFriends = ["Bubba", "Lieutenant Dan"];
```

```
forrest instanceof Array // false
forrestFriends instanceof Array // true
```

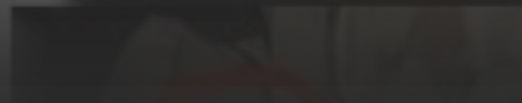
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www.cartoonstock.com

```
// Various "false" values
var nullVal = null;
var undefinedVal = undefined;
var zeroVal = 0;
var falseVal = false;
var emptyString = "";

// All would equal false in an if-clause
if (emptyString) {
    // Would never go in here
}
```

“Coercion is the practice of forcing another party to behave in an involuntary manner”

- Wikipedia

```
// Assignment  
var happy = true;
```

```
// Equality  
if (7 == "7") {  
    // true  
}
```

```
// Identity  
if (7 === "7") {  
    // false  
}
```

```
// Assignment  
var happy = true;
```

```
// Equality  
if (7 == "7") {  
    // true  
}
```

```
// Identity  
if (7 === "7") {  
    // false  
}
```

Type coercion

```
// Type coercion  
var sum = "5" + 6 + 7; // 567
```



```
// Prevent type coercion  
var sum = parseInt("5", 10) + 6 + 7; // 18
```

Play with yourself.

9-inch private seatback screens. 300 hours of audio/video on demand. 60 movies, over 100 hours of TV, 120 full-length CD albums and 18 video games. All playing on non-stop flights to London and Sydney. Nobody entertains you better in the sky than Virgin Atlantic.

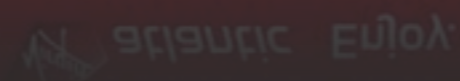
www.virginatlantic.com.hk



JustWhatSheSaid.com

JustWhatSheSaid.com

www.virginatlantic.com.hk



```
// Self-invoking functions
(function () {
    var investment = "Lieutenant Dan got me
invested in some kind of fruit company.";
})();
```



```
// Using arguments
function friends (friend1, friend2) {
    return friend1 + " & " + friend2;
}
```

```
// Lieutenant Dan & Bubba
friends("Lieutenant Dan", "Bubba");
```

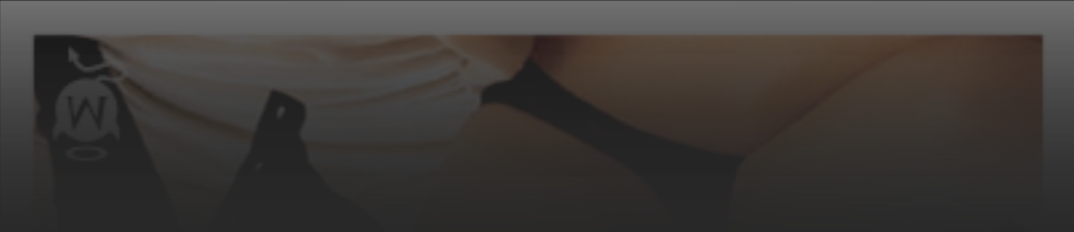
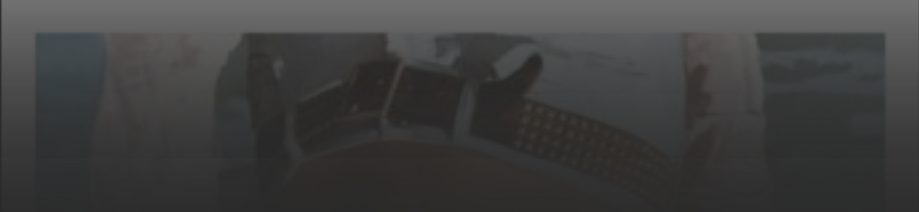
```
// Lieutenant Dan & undefined
friends("Lieutenant Dan");
```



```
// Using the arguments collection
function friends () {
    var allFriends = [];
    for (var i=0, il=arguments.length; i<il; i++) {
        allFriends.push(arguments[i]);
    };
    return allFriends.join(" & ");
}
```

```
// Lieutenant Dan & Bubba
friends("Lieutenant Dan", "Bubba");
```

```
// Lieutenant Dan
friends("Lieutenant Dan");
```



```
// Object declaration
function Forrest () {
    this.firstName = "Forrest";
    this.lastName = "Gump";
}

var forrest = new Forrest();
```

```
// Object declaration, literal style
var forrest = {
    firstName : "Forrest",
    lastName : "Gump"
};
```

```
// Iterating over properties
for (var item in forrest) {
    console.log(item + ": " + forrest[item]);
}
```

```
// Object declaration
var forrest = {
    firstName : "Forrest"
};

// Safe check for property
if ("firstName" in forrest) {
    console.log(forrest.firstName);
}
```


IT'S TRUE THAT THE MEEK WERE INTENDED TO INHERIT THE EARTH, MR. OSGOOD, BUT WE HAVE YOU CLASSIFIED AS "APATHETIC."



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B4/00

```
// Object declaration
function ForrestAsChild {
    this.firstName = "Forrest";
};

// Method set via prototype
ForrestAsChild.prototype.runsFast = function () {
    return true;
};
```

```
// Object declaration
function ForrestAsGrownup {
    this.joinsArmy = true;
};

// Prototype for new object
ForrestAsGrownup.prototype = new ForrestAsChild;

// Method set via prototype
ForrestAsGrownup.prototype.ruinsBathrobe = function () {
    return "I think I ruined your roommate's bathrobe";
};
```

```
// Create an instance
var forrest = new ForrestAsGrownup();

// Returns "I think I ruined your roommate's bathrobe"
forrest.ruinsBathrobe();

// Returns true - from ForrestAsChild
forrest.runsFast();

// Fails
forrest.codesJavaScript();
```

forrest instance

ForrestAsGrownup

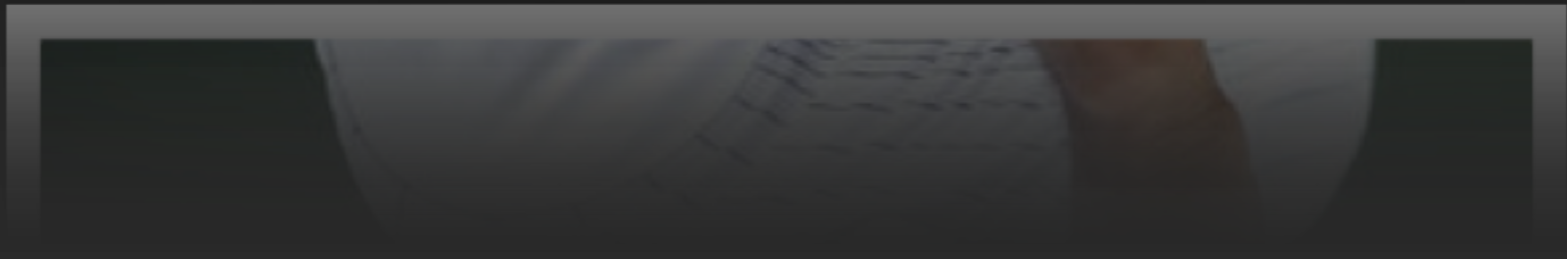
ForrestAsChild

Object




```
// Extending core JavaScript objects
if (typeof Array.prototype.push === "undefined") {
    Array.prototype.push = function () {
        for (var i=0, i1=arguments.length; i<i1; i++) {
            this[this.length] = arguments[i];
        };
        return this;
    }
}
```

```
var locations = ["Vietnam"];
locations.push("China", "White House");
// locations = ["Vietnam", "China", "White House"];
```



```
// Scope - global or local

// Global
var quote = "I had run for 3 years, 2 months,
14 days, and 16 hours."

function () {
    // Local
    var pantherParty = "I'm sorry I had to
fight in the middle of your Black Panther
party.";

    // Global
    question = "And so, you just ran?";
}
```

```
// Global
function meetingJFK () {
    var JFKQuestion = "Congratulations, how do
you feel?";

    // Local
    function forrestReply () {
        return "I gotta pee.";
    }

    return forrestReply();
}

meetingJFK(); // I gotta pee
forrestReply(); // Error: not accessible
```

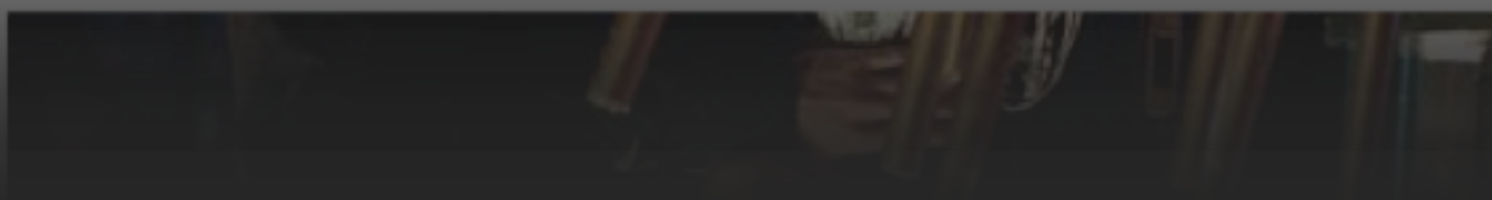
```
// Controlling scope
function whoAmI () {
    return this.nodeName;
}
```

```
whoAmI(); // undefined
```

```
whoAmI.call(document, "Hello"); // #document
```

```
whoAmI.apply(document.body, ["Hello", "Greetings?"]); // BODY
```



```
// closures
function happens (what) {
    return function (verb) {
        return what + " " + verb;
    }
}

var action = happens("Shit");

action("happens"); // Shit happens
```



```
// closures
function happens (what) {
    return function (verb) {
        return what + " " + verb;
    }
}
```

```
var action = happens("Shit");
```

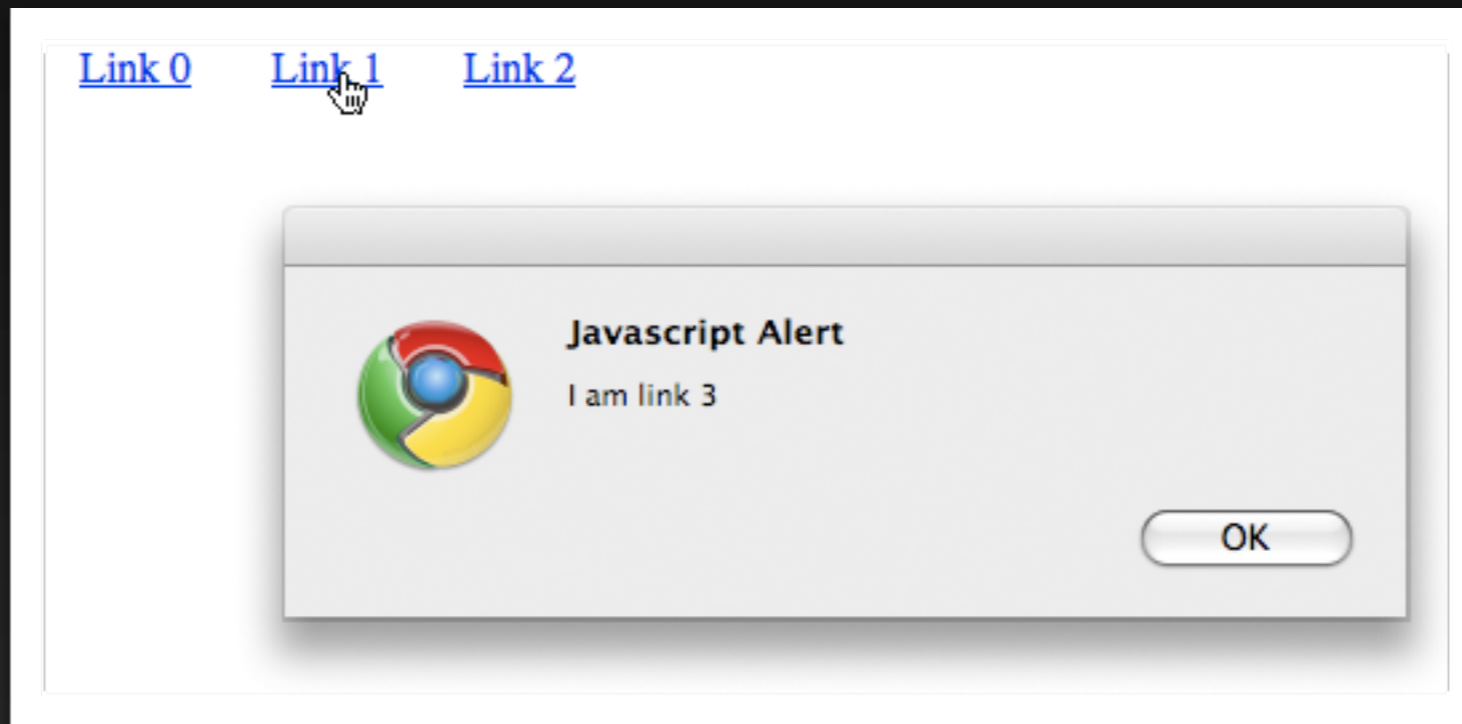
```
// Breaking it down
var action = function (verb) {
    return "Shit" + " " + verb;
};
```

```
// closures
function happens (what) {
  return function (verb) {
    return what + " " + verb;
  }
}
```

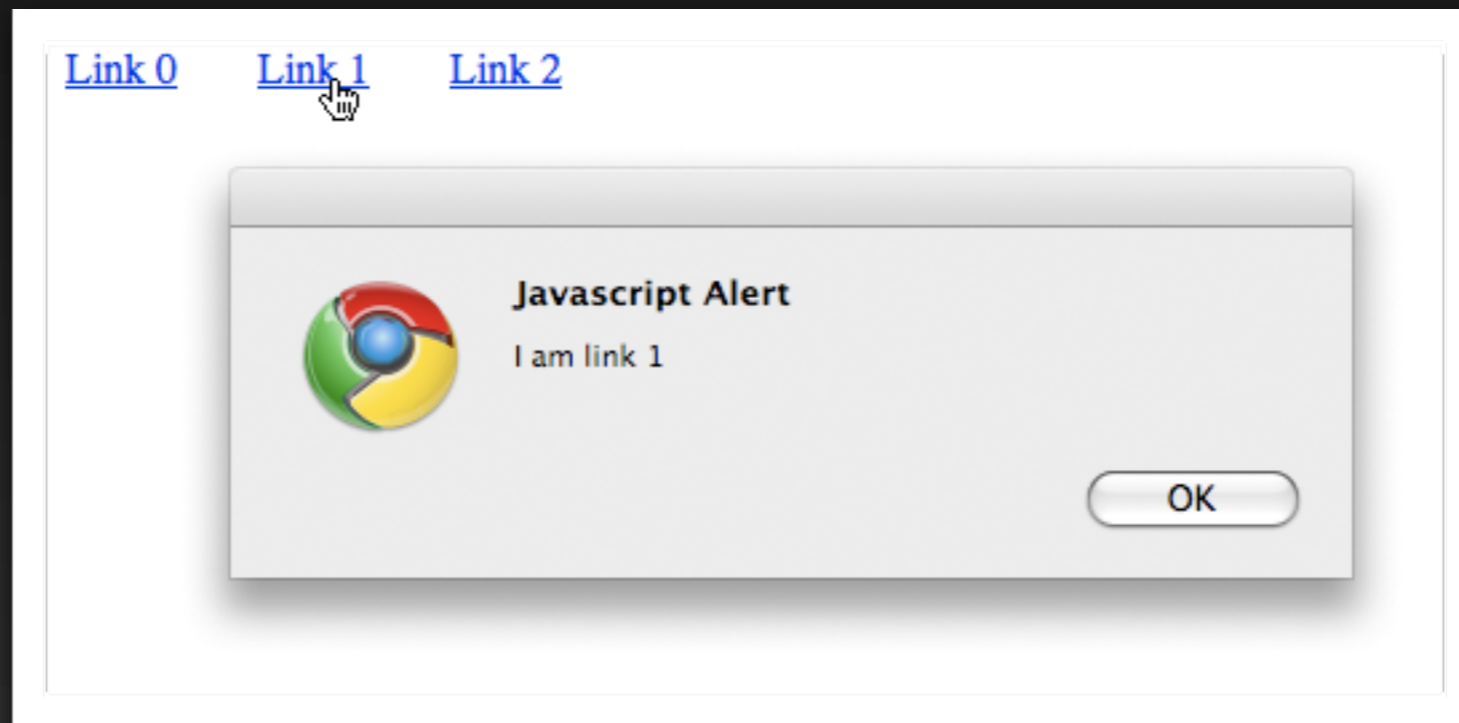
```
var action = happens("Shit");
```

```
// Breaking it down
var action = function (verb) {
  return "Shit" + " " + verb;
};
```

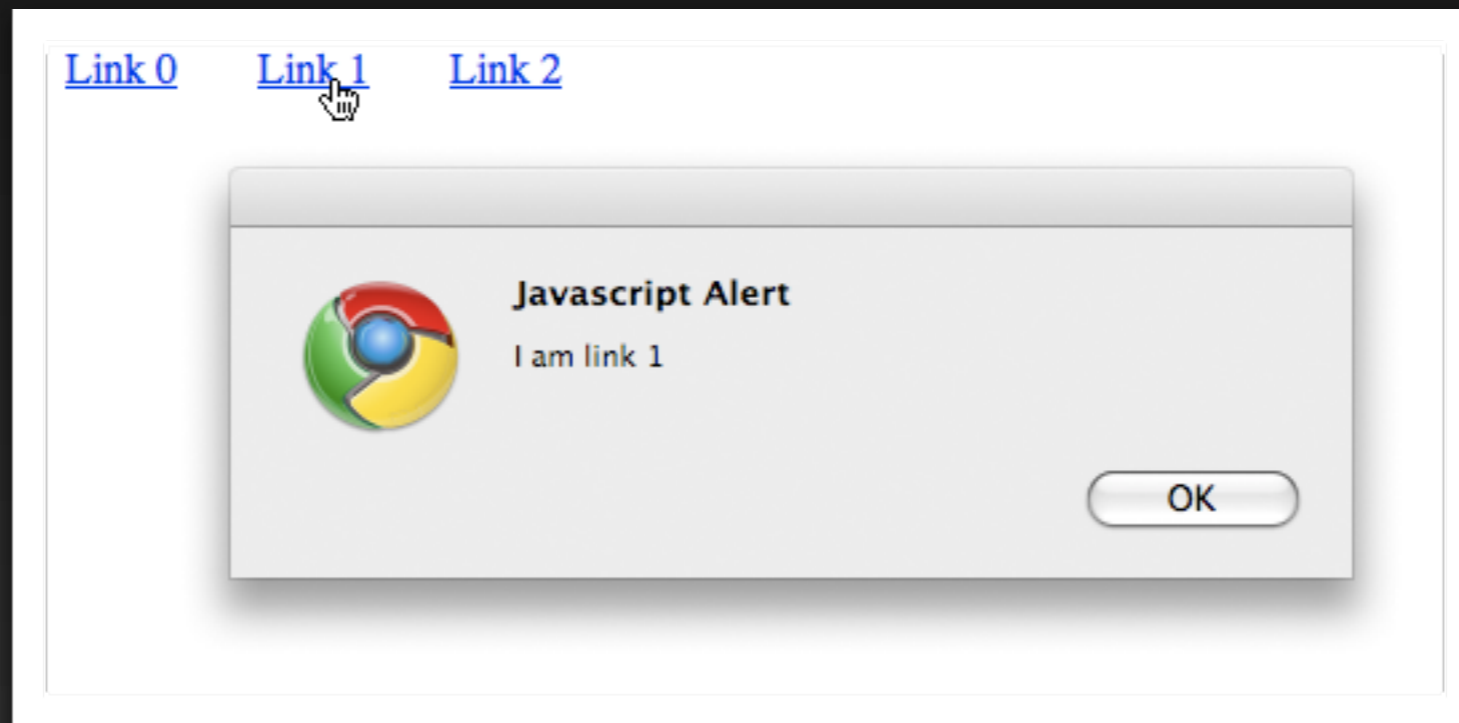
```
var link;  
for (var i=0; i<3; i++) {  
    link = document.createElement("a");  
    link.innerHTML = "Link " + i;  
    link.onclick = function () {  
        alert("I am link " + i);  
    };  
    document.body.appendChild(link);  
};
```



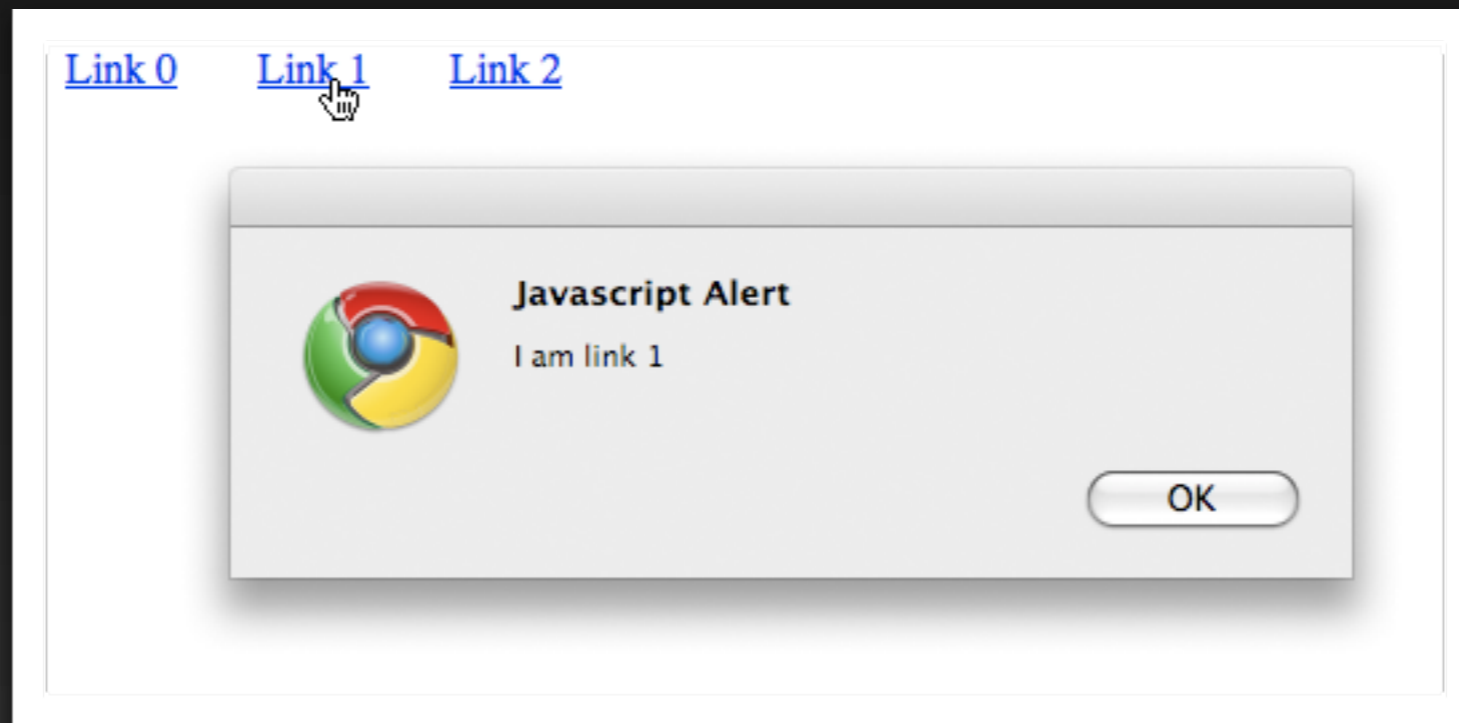

```
var link;
for (var i=0; i<3; i++) {
    link = document.createElement("a");
    link.innerHTML = "Link " + i;
    link.onclick = function (index) {
        return function () {
            alert("I am link " + index);
        };
    }(i);
    document.body.appendChild(link);
};
```



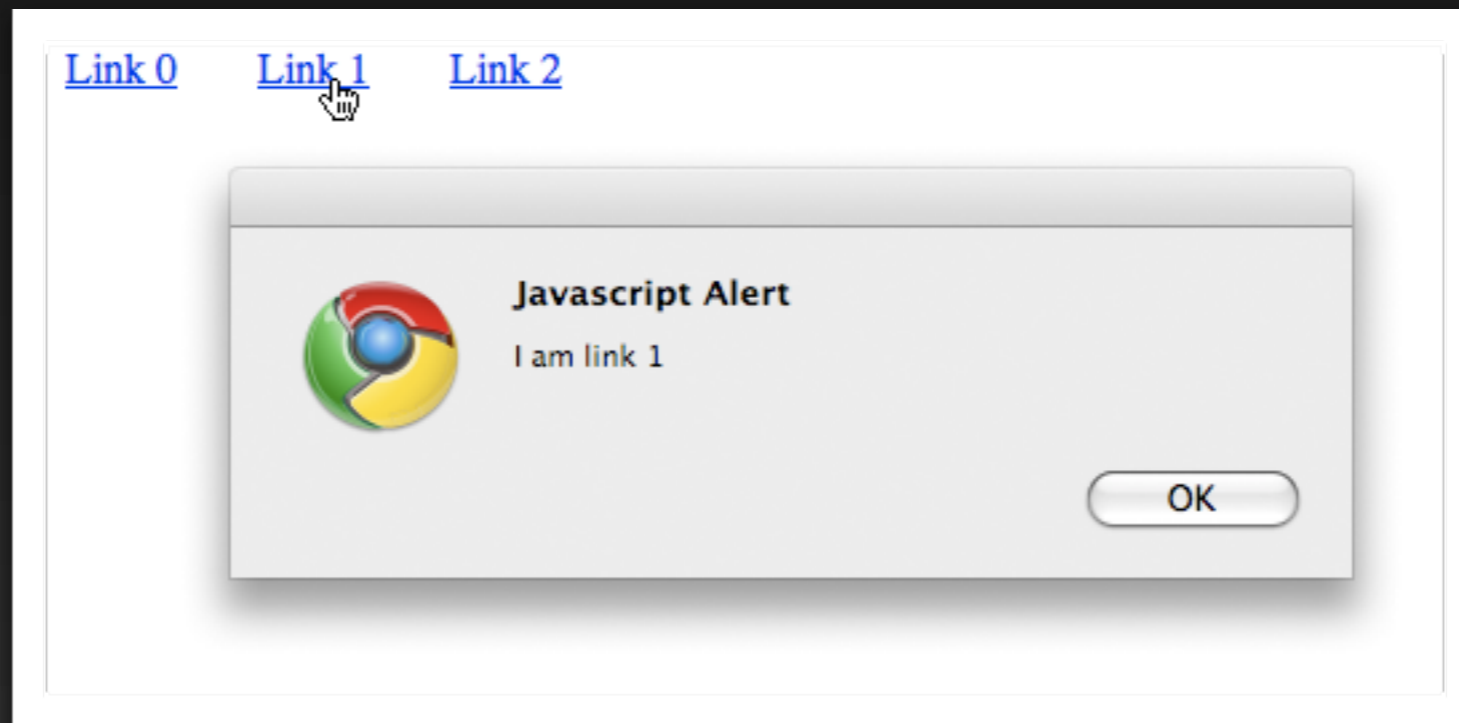
```
var link;
for (var i=0; i<3; i++) {
    link = document.createElement("a");
    link.innerHTML = "Link " + i;
    link.onclick = function (index) {
        return function () {
            alert("I am link " + index);
        };
    }(i);
    document.body.appendChild(link);
};
```

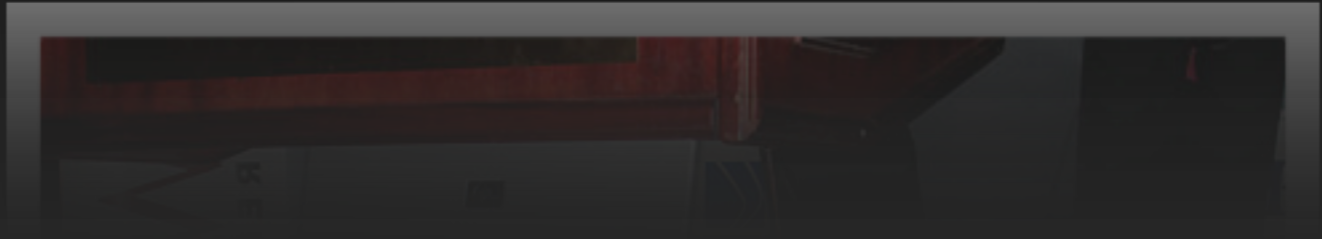


```
var link;
for (var i=0; i<3; i++) {
    link = document.createElement("a");
    link.innerHTML = "Link " + i;
    link.onclick = function (index) {
        return function () {
            alert("I am link " + index);
        };
    };
    document.body.appendChild(link);
};
```



```
var link;
for (var i=0; i<3; i++) {
    link = document.createElement("a");
    link.innerHTML = "Link " + i;
    link.onclick = function (index) {
        return function () {
            alert("I am link " + index);
        };
    }(i);
    document.body.appendChild(link);
};
```





```
// Yahoo! JavaScript Module Pattern
var forrest = function () {
    var firstName = "Forrest";

    return {
        getFirstName : function () {
            return firstName;
        }
    };
}();

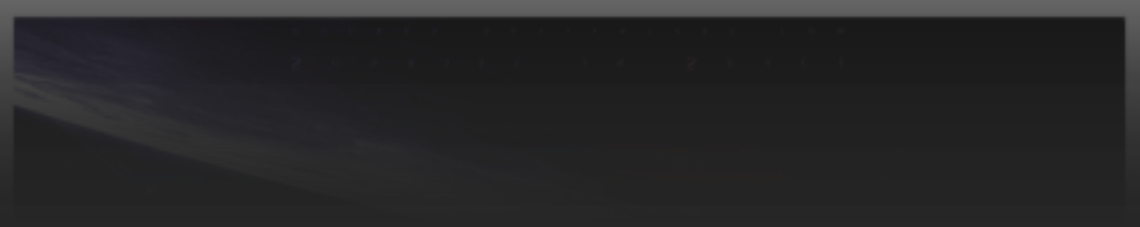
// Returns "Forrest"
forrest.getFirstName();
```



```
// Yahoo! JavaScript Module Pattern
var forrest = function () {
    var firstName = "Forrest",
        getFirstName = function () {
            return firstName;
        };

    return {
        getFirstName : getFirstName
    };
}();

// Returns "Forrest"
forrest.getFirstName();
```



```
// Namespacing
var Movie = {};

// Yahoo! JavaScript Module Pattern
Movie.forrest = function () {
    var lastName = "Gump";

    return {
        firstName : "Forrest",
        getFirstName : function () {
            return this.firstName;
        }
    };
}();
```

```
// Yahoo! JavaScript Module Pattern
Movie.forrest = function () {
    var lastName = "Gump";

    return {
        firstName : "Forrest",
        getFirstName : function () {
            return this.firstName;
        }
    };
}();
```

```
// Yahoo! JavaScript Module Pattern
Movie.lieutenantDan = function () {
    var lastName = "Taylor";

    return {
        firstName : "Dan",
        getFullName : function () {
            return Movie.forrest.getFirstName.call(this) + " " + lastName;
        }
    };
}();
```

```
Movie.lieutenantDan.getFullName();
```

```
// Yahoo! JavaScript Module Pattern
Movie.forrest = function () {
    var lastName = "Gump";

    return {
        firstName : "Forrest",
        getFirstName : function () {
            return this.firstName;
        }
    };
}();
```

```
// Yahoo! JavaScript Module Pattern
Movie.lieutenantDan = function () {
    var lastName = "Taylor";

    return {
        firstName : "Dan",
        getFullName : function () {
            return Movie.forrest.getFirstName.call(this) + " " + lastName;
        }
    };
}();
```



```
Movie.lieutenantDan.getFullName();
```

**EVER TRIED.
EVER FAILED.
NO MATTER.
TRY AGAIN.
FAIL AGAIN.
FAIL BETTER.**

Samuel Beckett (1906-1989)

Samuel Beckett (1906-1989)


```
// Minimize DOM access
document.getElementById("container").className = "js-enabled";
document.getElementById("container").innerHTML += "Hello Amsterdam";
document.getElementById("container").innerHTML += "Tell me how you doin'!";
document.getElementById("container").innerHTML += "I went on a nice boat
ride last night!";
document.getElementById("container").innerHTML += "...where Carrot Top made
a pass at me...";
```

```
// Minimize DOM access
var container = document.getElementById("container"),
    content = "Hello Amsterdam";
container.className = "js-enabled";
content += "Tell me how you doin'!";
content += "I went on a nice boat ride last night!";
content += "...where Carrot Top made a pass at me...";
container.innerHTML = content;
```

```
// Minimize DOM access
var container = document.getElementById("container"),
    content = "Hello ,
container.className = " ";
content += "Tell me ho !";
content += "I went on : ride last night!";
content += "...where Carrot Top made a pass at me...";
container.innerHTML = content;
```




```
// Variable declaration
function richAndStupid () {
    var rich = "And cause I was a gazillionaire, I
cut that grass for free.",
        stupid = "Stupid is as stupid does.";
}
```

```
// Looping, variables and array lookups
function forrestForm () {
    var allParagraphs = document.getElementsByTagName("p");
    for (var i=0; i<allParagraphs.length; i++) {
        var link = document.createElement("a");
        link.href = "http://en.wikipedia.org/wiki/Forrest\_Gump";
        link.title = "Read about Forrest Gump at Wikipedia";
        link.innerHTML = "Forrest Gump";

        allParagraphs[i].className = "Forrested";
        allParagraphs[i].appendChild(link);
    }
}
```

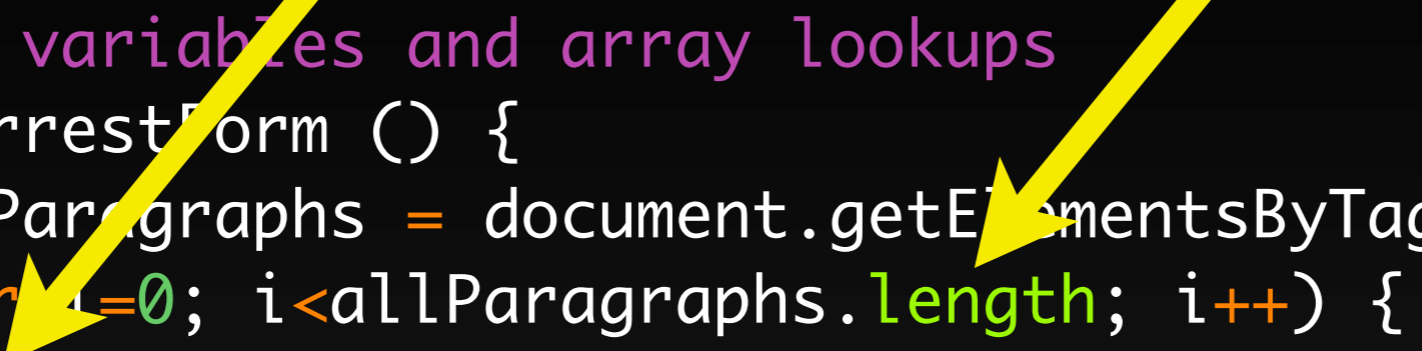
```
// Looping, variables and array lookups
function forrestForm () {
  var allParagraphs = document.getElementsByTagName("p");
  for (var i=0; i<allParagraphs.length; i++) {
    var link = document.createElement("a");
    link.href = "http://en.wikipedia.org/wiki/Forrest\_Gump";
    link.title = "Read about Forrest Gump at Wikipedia";
    link.innerHTML = "Forrest Gump";

    allParagraphs[i].className = "Forrested";
    allParagraphs[i].appendChild(link);
  }
}
```



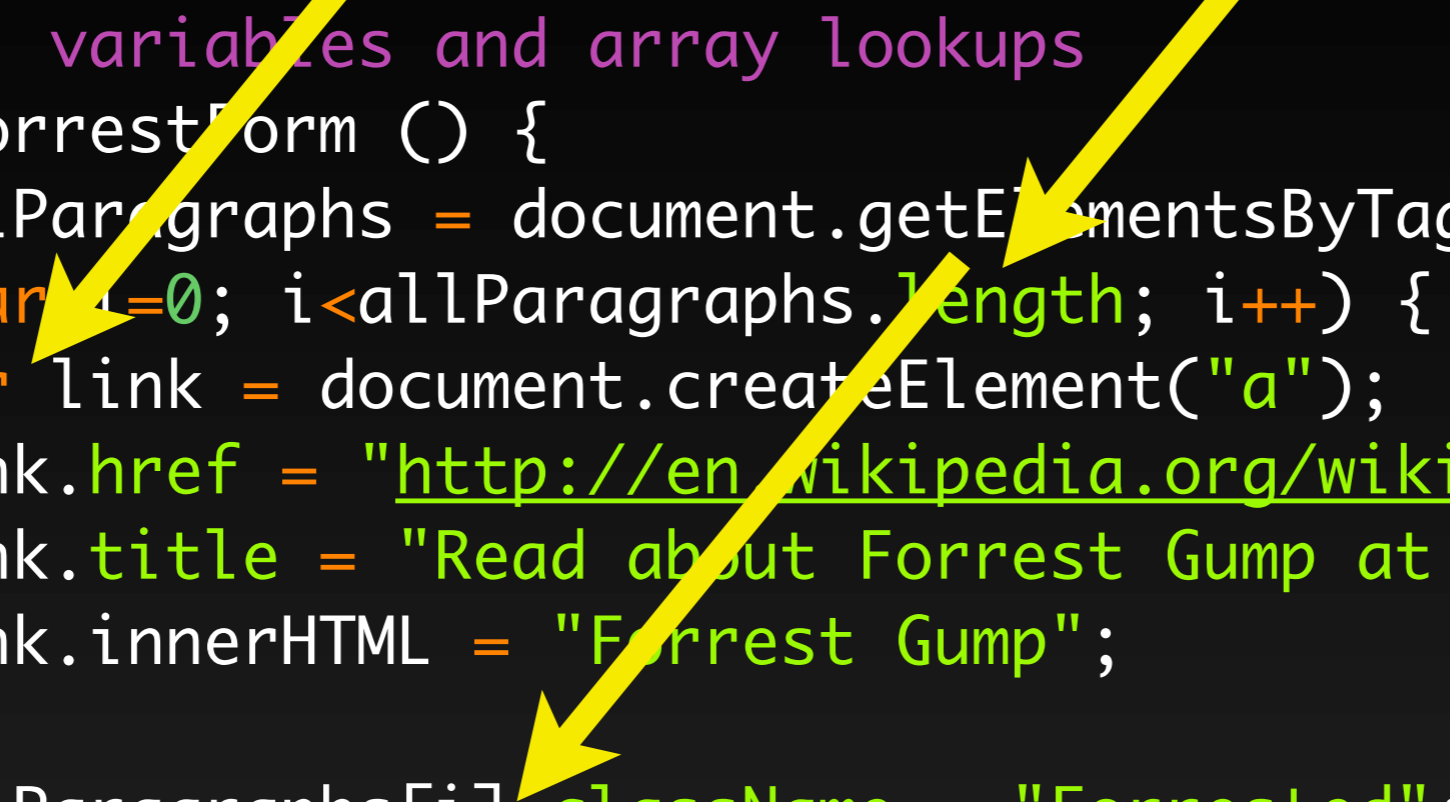
```
// Looping, variables and array lookups
function forrestForm () {
  var allParagraphs = document.getElementsByTagName("p");
  for (var i=0; i<allParagraphs.length; i++) {
    var link = document.createElement("a");
    link.href = "http://en.wikipedia.org/wiki/Forrest\_Gump";
    link.title = "Read about Forrest Gump at Wikipedia";
    link.innerHTML = "Forrest Gump";

    allParagraphs[i].className = "Forrested";
    allParagraphs[i].appendChild(link);
  }
}
```




```
// Looping, variables and array lookups
function forrestForm () {
  var allParagraphs = document.getElementsByTagName("p");
  for (var i=0; i<allParagraphs.length; i++) {
    var link = document.createElement("a");
    link.href = "http://en.wikipedia.org/wiki/Forrest\_Gump";
    link.title = "Read about Forrest Gump at Wikipedia";
    link.innerHTML = "Forrest Gump";

    allParagraphs[i].className = "Forrested";
    allParagraphs[i].appendChild(link);
  }
}
```




```
// Looping, variables and array lookups
function forrestForm () {
    var allParagraphs = document.getElementsByTagName("p");
    for (var i=0, l=allParagraphs.length, link, paragraph; i<l; i++) {
        link = document.createElement("a");
        link.href = "http://en.wikipedia.org/wiki/Forrest\_Gump";
        link.title = "Read about Forrest Gump at Wikipedia";
        link.innerHTML = "Forrest Gump";

        paragraph = allParagraphs[i];
        paragraph.className = "Forrested";
        paragraph.appendChild(link);
    }
}
```

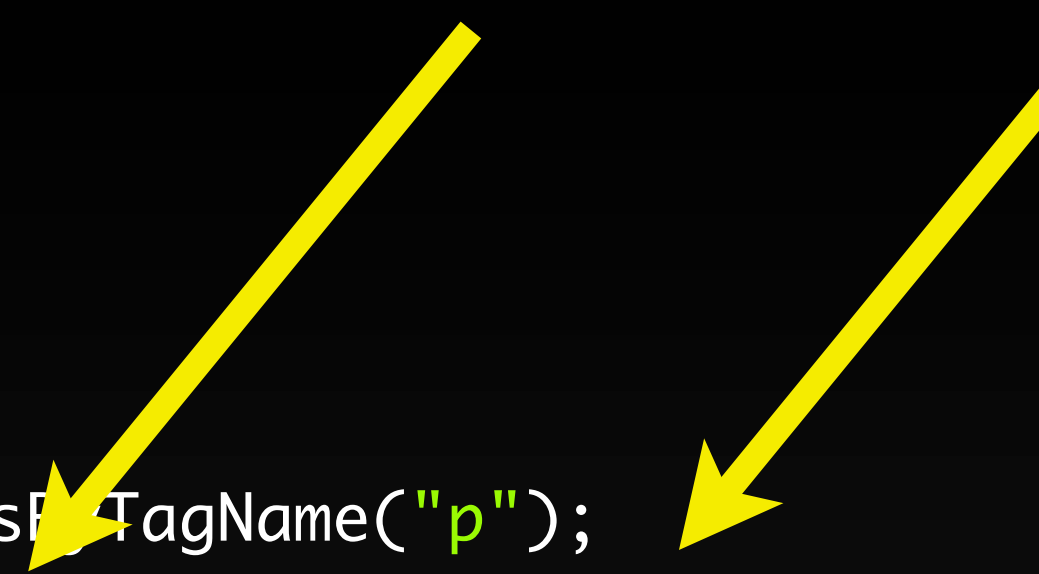
```
// Looping, variables and array lookups
function forrestForm () {
  var allParagraphs = document.getElementsByTagName("p");
  for (var i=0, l=allParagraphs.length, link, paragraph; i<l; i++) {
    link = document.createElement("a");
    link.href = "http://en.wikipedia.org/wiki/Forrest\_Gump";
    link.title = "Read about Forrest Gump at Wikipedia";
    link.innerHTML = "Forrest Gump";

    paragraph = allParagraphs[i];
    paragraph.className = "Forrested";
    paragraph.appendChild(link);
  }
}
```



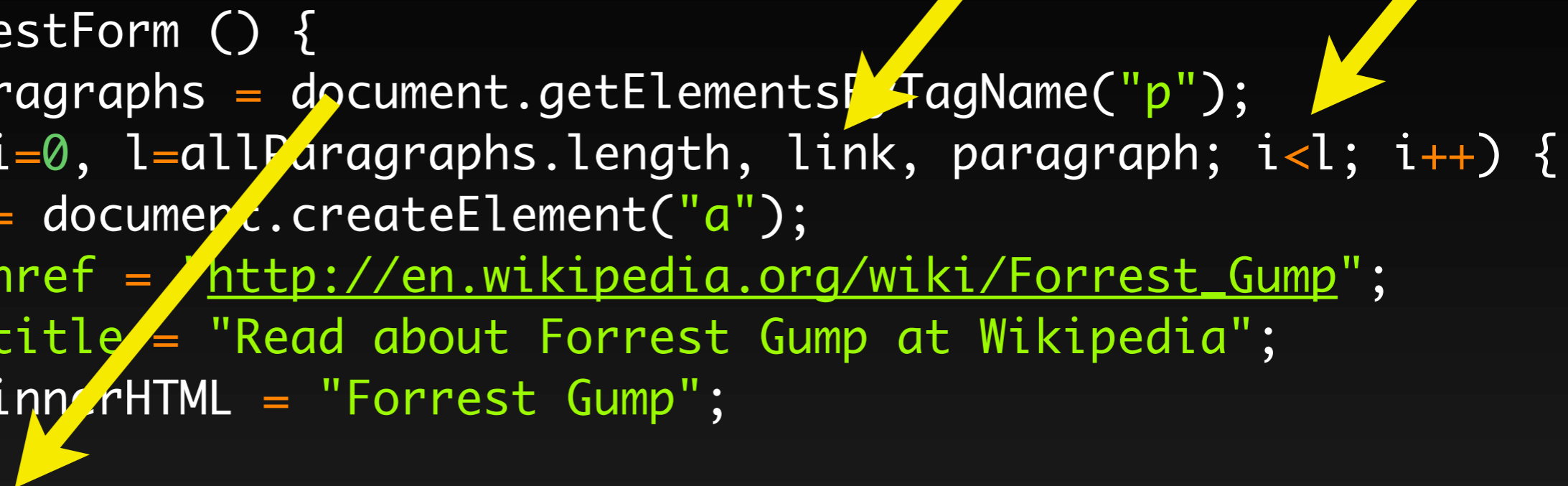
// Looping, variables and array lookups

```
function forrestForm () {  
  var allParagraphs = document.getElementsByTagName("p");  
  for (var i=0, l=allParagraphs.length, link, paragraph; i<l; i++) {  
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    link.innerHTML = "Forrest Gump";  
  
    paragraph = allParagraphs[i];  
    paragraph.className = "Forrested";  
    paragraph.appendChild(link);  
  }  
}
```



// Looping, variables and array lookups

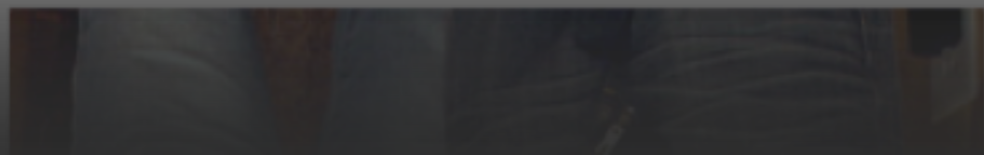
```
function forrestForm () {  
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    link.innerHTML = "Forrest Gump";  
  
    paragraph = allParagraphs[i];  
    paragraph.className = "Forrested";  
    paragraph.appendChild(link);  
  }  
}
```



```
// Semicolon insertion  
return  
{  
  javascript : "Fantastic!"  
};
```

```
// Semicolon insertion  
return; // Semicolon insertion  
{ // Considered an empty block  
  javascript : "Fantastic!"  
}; // Semicolon insertion, dummy line
```


JSLint



Robert Nymman

<http://robertnymman.com/speaking/>

Twitter: [@robertnymman](https://twitter.com/robertnymman)

Pictures:

Ninja Turtle: <http://www.originalprop.com/blog/2008/03/20/teenage-mutant-ninja-turtles-costume-restoration/>
Bruce Willis: <http://www.starsjournal.com/3192/bruce-willis-is-being-sued-for-4-million-dollars.html>
Swedish flag: <http://www.olssonfoto.se/JAlbum/SGP%202008%20Ullevi/slides/Svenska%20flaggan.html>
Euro Coin: <http://accidentaldong.blogspot.com/2009/10/euro-uh-oh.html>

Most popular language: <http://odetocode.com/Blogs/scott/archive/2009/03/18/signs-that-your-javascript-skills-need-updating.aspx>
Sunrise: <http://www.manywallpapers.com/space-wallpapers/earth/sunrise-from-space.html>
Astronaut: <http://martianchronicles.wordpress.com/2009/01/23/carnival-of-space-87/>
Netscape 2: <http://blog.explorellearning.com/2005/12/index.html>
Internet Explorer 3: <http://www.guidebookgallery.org/screenshots/browser>
Gandalf: <http://web.mit.edu/kayla/Public/Backgrounds/LOTR%20Gandalf%204.JPG>
Now: <http://www.geekologie.com/2007/07/15-week/>
Axe: <http://bestgamewallpapers.com/a3-the-age-of-sovereign/axe>
Time: <http://www.mindhacks.com/blog/seeing/index.html>
Money: <http://www.mediabistro.com/unbeige/ideas/>
Happy Ape: <http://thesituationist.wordpress.com/2007/06/14/>
High speed train: <http://www.freefoto.com/preview/23-22-1?ffid=23-22-1>
Sunspider results: <http://ie.microsoft.com/testdrive/benchmarks/sunspider/default.html>
Forrest Gump: http://wallpaper-s.org/36_Forrest_Gump_1994_Tom_Hanks_Robin_Wright_Penn.htm
Data: <http://walrus.wr.usgs.gov/infobank/programs/html/definition/datadictionary.html>

Dog (Cat): http://www.cartoonstock.com/directory/ff/false_identity.asp
Hillary Clinton & Soldier: <http://confederateyankee.mu.nu/archives/154032.php>
Play with yourself: <http://www.justwhatshesaid.com/?p=965>
Overloading: <http://theshadowhive.blogspot.com/2010/04/mutating-chaos-gene.html>
Brad Pitt: http://open.salon.com/blog/just-walt/2009/10/29/real_men_he-men_pictures_whos_the_manliest_of_men
Kristen Bell: <http://veronica-mars-episodes.download-tvshows.com/kristen-bell-loves-megan-fox/>
Extensible table: http://www.amishshowroom.com/index.php?main_page=index&cPath=40_64
Tiger Woods: <http://blogs.bigadda.com/pal4868546/2010/01/>
Pollution: <http://blog.lib.umn.edu/cramb005/architecture/>
Closure: <http://today.msnbc.msn.com/id/4760120>
Steve Ballmer: <http://www.businessinsider.com/microsoft-completely-rebooted-its-mobile-strategy-yesterday-heres-what-you-missed-2010-2>
Inheritance: <http://tithebarn.wordpress.com/2010/04/26/the-meek-shall-inherit-if-thats-alright-with-the-rest-of-you/>
Crockford: http://gemsres.com/story/nov07/468365/Crockford_New_4681.jpg
Name: <http://blog.usa.gov/roller/govgab/tags/names>
Space: <http://gucken.deviantart.com/art/Sunrise-in-Space-56420137>
Fail better: <http://ozguralaz.posterous.com/ever-tried-ever-failed-no-matt>

Mila & Macaulay: http://uk.eonline.com/uberblog/b61889_mila_macaulay_home_alone.html
Hearts: <http://www.funonthenet.in/content/view/395/31/>



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