JavaScript Basics

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Module Overview

<script>

Variables and Types

Functions

Conditionals

Loops

JS Usage

JavaScript in Web Pages

<script>	src attribute
defer attribute	<noscript>

```
<!DOCTYPE html>
<html>
<head>
    <script>
        console.log('Hello!');
    </script>
</head>
<body>
</body>
</html>
```

Question

What shows in the console?

Answer

Hello!

```html
<!DOCTYPE html>
<html>
<head>
</head>
<body>
    <h1>Our Page</h1>
    <script>
        console.log('In Body');
    </script>
</body>
</html>
```

Question

What shows in the console?

Answer

In Body

File: js/app.js

```
console.log('in app.js');
```

File: index.html

```
<!DOCTYPE html>
<html>
<head>
</head>
<body>
    <h1>Our Page</h1>
    <script src="js/app.js"></script>
</body>
</html>
```

What shows in the console?

in app.js

File: js/app.js

```
console.log('in app.js');
```

File: index.html

```html
<!DOCTYPE html>
<html>
<head>
</head>
<body>
    <h1>Our Page</h1>
    <script type="text/javascript" src="js/app.js">
        console.log('Hello!');
    </script>
</body>
</html>
```

Question

What shows in the console?

Answer

in app.js

File: js/app.js

```
console.log('in app.js');
```

File: index.html

```
<!DOCTYPE html>
<html>
<head>
</head>
<body>
    <h1>Our Page</h1>
    <script src="js/app.js" />
</body>
</html>
```

What shows in the console?

Answer

Unexpected end of file

File: js/app.js

```
console.log('in app.js');
```

File: js/salesOrder.js

```
console.log('in salesOrder.js');
```

File: index.html

```html
<!DOCTYPE html>
<html>
<head>
</head>
<body>
    <h1>Our Page</h1>
    <script src="js/app.js" ></script>
    <script src="js/salesOrder.js" ></script>
</body>
</html>
```

What shows in the console?

Answer

in app.js
in salesOrder.js

File: js/app.js

```javascript
console.log('in app.js');
```

File: js/salesOrder.js

```javascript
console.log('in salesOrder.js');
```

File: index.html

```html
<!DOCTYPE html>
<html>
<head>
</head>
<body>
    <h1>Our Page</h1>
    <script defer src="js/app.js" ></script>
    <script src="js/salesOrder.js" ></script>
</body>
</html>
```

Question

What shows in the console?

Answer

```
in salesOrder.js
in app.js
```

```
<!DOCTYPE html>
<html>
<head>
</head>
<body>
    <noscript>
        <h1>This application requires
JavaScript.</h1>
    </noscript>
</body>
</html>
```

What shows in the web page when JavaScript is turned off or isn't available?

Answer

This application requires JavaScript.

```
var orderId = 9001;
console.log(orderId);
```

What shows in the console?

9001

```
var orderId = "ORD-9001";
console.log(orderId);
```

What shows in the console?

ORD-9001

```
var orderId = "ORD-9001";
orderId = 1201;
console.log(orderId);
```

Q uestion

What shows in the console?

A nswer

1201

```
var orderId;
console.log(orderId);
```

What shows in the console?

A nswer

undefined

```
orderId = 9001;
console.log(orderId);
```

What shows in the console?

9001

```
'use strict';
orderId = 9001;
console.log(orderId);
```

What shows in the console?

Runtime Error: variable
undefined in strict
mode

```
var orderId = 9001;
console.log(typeof orderId);
```

What shows in the console?

number

```
var orderId = 9001.01;
console.log(typeof orderId);
```

uestion

What shows in the console?

A nswer

number

```
var orderId = "ORD-9001";
console.log(typeof orderId);
```

uestion

What shows in the console?

nswer

string

```
var isActive = true;
console.log(typeof isActive);
```

What shows in the console?

boolean

```
var isActive;
console.log(typeof isActive);
```

What shows in the console?

undefined

```
var order = {
    orderId: 9001,
    isActive: true
};
console.log(typeof order);
```

What shows in the console?

Answer

object

```
var cancelledOrders = [9001, 9002,
9003];
console.log(typeof cancelledOrders);
```

What shows in the console?

object

```
var order = null;
console.log(typeof order);
```

What shows in the console?

object

```
function cancelOrder(orderId) {
};

console.log(typeof cancelOrder);
```

What shows in the console?

function

Function Fundamentals

Declaring Functions

Arguments

Returning Values

Function Expressions

```
function printOrder() {
    console.log('Printing order.');
};

printOrder();
```

What shows in the console?

Printing order.

```
function printOrder(orderId) {
    console.log('Printing order: ' + orderId);
};

printOrder('9002');
```

What shows in the console?

Printing order: 9002

```
printOrder('9002');

function printOrder(orderId) {
    console.log('Printing order: ' + orderId);
};
```

Question

What shows in the console?

Answer

```
Printing order: 9002
```

```javascript
function calcTotalPrice(quantity, price) {
    console.log('Total price: ' + (quantity * price));
};

calcTotalPrice(2, 4.00);
```

What shows in the console?

Answer

Total price: 8

```
function calcTotalPrice(quantity, price, currency)
{
    console.log(currency);
};

calcTotalPrice(2, 4.00);
```

What shows in the console?

undefined

```
function calcTotalPrice(quantity, price)
{
    return quantity * price;
};

var totalPrice = calcTotalPrice(2, 4.00);
console.log(totalPrice);
```

What shows in the console?

Answer

8

```
function calcTotalPrice(quantity, price) {
    return quantity * price;
};

var totalPrice = calcTotalPrice(2, 4.00);
console.log(totalPrice);

totalPrice = calcTotalPrice(3, 3.00);
console.log(totalPrice);
```

What shows in the console?

Answer

8
9

```
function getOrder() {
    // nothing returned
};

var order = getOrder();
console.log(order);
```

What shows in the
console?

undefined

```
var activateOrder = function() {
    console.log('Order activated.');
};

console.log(typeof activateOrder);
```

What shows in the console?

function

```
var activateOrder = function() {
    console.log('Order activated.');
};


activateOrder();
```

uestion

What shows in the console?

Answer

Order activated.

```
var activateOrder = function() {
    console.log('Order activated.');
};

activateOrder;
```

What shows in the
console?

A nswer

(nothing shows)

If and Switch Statements

if	if ... else
switch ... case	Advanced cases

```
var total = 99.99;
var freeShipping = false;

if (total >= 50.00)
    freeShipping = true;

console.log(freeShipping);
```

What shows in the console?

true

```
var total = 99.99;
var freeShipping = false;

if (total >= 100.00)
    freeShipping = true;

console.log(freeShipping);
```

What shows in the console?

Answer

false

```
var total = 99.99;
var freeShipping;

if (total >= 100.00)
    freeShipping = true;
else
    freeShipping = false;


console.log(freeShipping);
```

What shows in the console?

false

```
var total = 99.99;
var freeShipping;
var savings;

if (total >= 100.00) {
    freeShipping = true;
    savings = 29.99;
}
else {
    freeShipping = false;
    savings = 0;
}
console.log(savings);
```

What shows in the console?

_____

Answer

0

```
var total = 99.99;
var freeShipping;
var savings;

if (total >= 100.00) {
    freeShipping = true;
    savings = 29.99;
};
else {
    freeShipping = false;
    savings = 0;
}
console.log(savings);
```

Answer

syntax error

```
var orderType = 'business';
var shipMethod;

if (orderType == 'business')
    shipMethod = 'FedEx';
else if (orderType == 'personal')
    shipMethod = 'UPS Ground';
else
    shipMethod = 'USPS';

console.log(shipMethod);
```

Question

What shows in the console?

_____

Answer

FedEx

```
var orderType = 'business';
var shipMethod;

switch (orderType) {
    case 'business':
        shipMethod = 'FedEx';
        break;
    case 'personal':
        shipMethod = 'UPS Ground';
        break;
    default:
        shipMethod = 'USPS';
}
console.log(shipMethod);
```

What shows in the console?

_____

Answer

FedEx

```
var orderType = 'business';
var shipMethod;

switch (orderType) {
    case 'business':
        shipMethod = 'FedEx';
        // break;
    case 'personal':
        shipMethod = 'UPS Ground';
        break;
    default:
        shipMethod = 'USPS';
}
console.log(shipMethod);
```

What shows in the console?

UPS Ground

```javascript
var orderType = 'unknown';
var shipMethod;

switch (orderType) {
    case 'business':
    case 'personal':
        shipMethod = 'UPS Ground';
        break;
    default:
        shipMethod = 'USPS';
}
console.log(shipMethod);
```

What shows in the console?

USPS

```javascript
var orderType = 'unknown';
var shipMethod;

switch (orderType) {
    case 'business':
    case 'personal':
        shipMethod = 'UPS Ground';
        break;
}
console.log(shipMethod);
```

What shows in the console?

undefined

```javascript
var orderTotal = 99.99;
var discount;

switch (true) {
    case orderTotal >= 50 && orderTotal < 75:
        discount = 10;
        break;
    case orderTotal >= 75 && orderTotal < 100:
        discount = 20;
        break;
    case orderTotal >= 100:
        discount = 30;
        break;
    default:
        discount = 0;
}
console.log(discount);
```

Question

What shows in the console?

Answer

20

while and do...while Statements

while

do...while

```
var lineItemCount = 3;
var currentItem = 0;
while (currentItem < lineItemCount) {
    console.log("item: " + currentItem);
    currentItem++;
}
```

What shows in the console?

Answer

```
item: 0
item: 1
item: 2
```

```
var lineItemCount = 3;
var currentItem = 0;
while (currentItem < lineItemCount)
    console.log("item: " + currentItem++);
```

What shows in the console?

Answer

```
item: 0
item: 1
item: 2
```

```
var lineItemCount = 3;
var currentItem = 0;
while (currentItem < lineItemCount)
    console.log("item: " + currentItem);
```

What shows in the console?

```
item: 0
item: 0
item: 0
(endlessly)
```

```
var lineItemCount = 3;
var currentItem = 0;
do {
    console.log("item: " + currentItem);
    currentItem++;
} while (currentItem < lineItemCount);
```

What shows in the console?

Answer

```
item: 0
item: 1
item: 2
```

```javascript
var lineItemCount = 3;
var currentItem = undefined;
do {
    console.log("item: " + currentItem);
    currentItem++;
} while (currentItem < lineItemCount);
```

What shows in the console?

item: undefined

for and for...in

for

break

continue

for...in

```
var lineItemCount = 3;

for (var i = 0; i < lineItemCount; i++)
    console.log(i);
```

What shows in the console?

0
1
2

```
var lineItemCount = 3;
var i = 0;

for (; i < lineItemCount; i++)
    console.log(i);
```

What shows in the console?

0
1
2

```
var lineItemCount = 3;
var i = 0;

for (; i < lineItemCount;)
    console.log(i++);
```

What shows in the console?

0
1
2

```
var lineItemCount = 5;

for (var i = 0; i < lineItemCount; i++) {
    console.log(i);
    if (i == 1)
        break;
}
```

What shows in the console?

Answer

0
1

```
var lineItemCount = 5;

for (var i = 0; i < lineItemCount; i++) {
    if (i == 1)
        continue;
    console.log(i);
}
```

What shows in the console?

Answer

0
2
3
4

```
var lineItemCount = 5;

outerLoop:
for (var i = 0; i < lineItemCount; i++) {
    for (var j = 0; j < 3; j++) {
        if (j == 1)
            continue outerLoop;
    }
    console.log(i);
}
```

What shows in the console?

_____

(nothing)

```javascript
var lineItem = {
    product: 'Widget 1',
    quantity: 4,
    price: 9.50
};

for (var field in lineItem)
    console.log(field);
```

What shows in the console?

Answer

product
quantity
price

```
var lineItem = {
    product: "Widget 1",
    quantity: 4,
    price: 9.50
};

for (var field in lineItem)
    console.log(field + " : " + lineItem[field]);
```

What shows in the console?

product : Widget 1
quantity : 4
price : 9.50

JavaScript Usage Features

Case Sensitivity

Comments

Identifier Symbols

```
var orderId = 5005;
console.log(OrderId);
```

What shows in the console?

ReferenceError: OrderId
is not defined

```
function submitOrder() {
    console.log('Submitting Order...');
}


submitorder();
```

What shows in the console?

ReferenceError:
submitorder is not
defined

```
/*
console.log(1);
*/
console.log(2);
// console.log(3);
```

What shows in the console?

2

```
/*
console.log( /*1*/);
*/
console.log(2);
// console.log(3);
```

What shows in the console?

SyntaxError: Unexpected token)

```
var @product = 'PRD-2000';
console.log(@product);
```

What shows in the console?

SyntaxError

```
var 2product = 'PRD-2000';
console.log(2product);
```

What shows in the console?

SyntaxError

```
var $product = 'PRD-4000'
$product += 'X2'
console.log($product)
```

What shows in the console?

PRD-4000X2

Summary

- \<script\>

- Variables and Types

- Functions

- Conditional Statements

- Loops

- JavaScript Usage