

Functions, Variables, Objects

Functions are set of related statements together that represent a single task

Functions can take parameters (information required to do their job) and may return a value

An object is a series of variables and functions grouped together that represent something from the world around you

In an object, variables are known as properties and functions as methods of the object

Functions, Variables, Objects

Web browsers implement objects that represent both the browser window and the document loaded into the browser window

JavaScript has several built-in objects such as String, Math, Number and Date.

Arrays and objects can be used to create complex data sets

Comparison Operators

Comparison operators help to make decisions that determine which lines of code should be run next.

Comparison operators allow you to compare values and test whether a condition is met or not.

They return single values of True or False.

Comparison Operators

>	Greater than	<code>5 > 3</code> returns true
<	Less than	<code>4 < 9</code> returns true
>=	Greater than or equal	<code>7 >= 6</code> returns true
<=	Less than or equal	<code>8 <= 8</code> returns true
!=	Is not equal to	<code>'Hello' != 'Goodbye'</code> returns true
==	Is equal to	<code>'Hello' == 'Goodbye'</code> returns false
===	Strict equal to	<code>'3' === 3</code> returns false
!==	Strict not equal to	<code>'3' !== 3</code> returns true

Comparison Operators

(score >= pass)

operand

operand

comparison
operator

Comparison Operators

`(score >= pass) > (highScore1 + highScore2)`

operand

operand

comparison
operator

Logical Operators

Logical operators allow you to compare the results of more than one comparison operator.

&& Logical AND

|| Logical OR

! Logical NOT

Logical Operators

`((2<6) && (3>=2))` returns true

`((2<6) || (2>1))` returns true

`!(2 < 1)` returns true

Logical Operators

`((5 > 2) && (2 >= 3))`

expression1

expression2

logical
operator



Logical Operators - example

```
var score1 = 8;
```

```
var score2 = 8;
```

```
var pass1 = 6;
```

```
var pass2 = 6;
```

```
var passBoth = (score1 >= pass1) && (score2 >= pass2);
```

```
var msg = 'Both rounds passed: ' + passBoth;
```

```
var el = document.getElementById('answer'); el.innerHTML = msg;
```

Logical Operators – example

```
var score1 = 8;
```

```
var score2 = 8;
```

```
var pass1 = 6;
```

```
var pass2 = 6;
```

```
var minPass = (score1 >= pass1) || (score2 >= pass2);
```

```
var msg = 'Resit required: ' + !(minPass);
```

```
var el = document.getElementById('answer'); el.innerHTML = msg;
```

If statement

The if statement evaluates a condition.

If the condition is true, all statements in the subsequent code block between opening curly brace and closing curly brace are executed.

```
if (condition) {  
    block of code to be executed if the condition is true  
}
```

If statement

```
if (score >= 50) {  
    congratulate();  
}
```

If ... else statements

The if ...else statement evaluates a condition.

If the condition is true, all statements in the first code block are executed.

If the condition is false, the second code block is executed instead.

```
if (condition) {  
    block of code to be executed if the condition is true  
} else {  
    block of code to be executed if the condition is false  
}
```

If ... else statements

```
if (score >= 50) {  
    congratulate();  
}  
else {  
    encourage();  
}
```

If ... else statements

If the time is less than 20:00, create a "Good day" greeting, otherwise "Good evening":

```
if (time < 20) {  
    greeting = "Good day";  
} else {  
    greeting = "Good evening";  
}
```


If ... else statements – good morning example

```
<!DOCTYPE html>
```

```
<html>
```

```
<body>
```

```
<p>Click the button to display a time-based greeting:</p>
```

```
<button onclick="myFunction()">Try it</button>
```

```
<p id="demo"></p>
```

If ... else statements – good morning example

```
<script>
function myFunction() {
  var greeting;
  if (new Date().getHours() < 20) {
    greeting = "Good day";
  } else {
    greeting = "Good evening";
  }
  document.getElementById("demo").innerHTML = greeting;
}
</script>
</body> </html>
```

If ... else statements – good morning example

Exercise

Write a script to print “DES 350 class day” if current day is M or W

If statement- random.html

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

If statement- random.html

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

If statement- random.html

```
</head>
```

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

```

```

```
</body>
```

```
</html>
```

If statement- example

```
var score = 75;  
var msg;  
if (score >= 50) {  
  msg = 'Congratulations!';  
  msg += ' Proceed to the next round.';  
}
```

```
var el = document.getElementById('answer')  
el.textContent = msg;
```

If statement- example

```
<!DOCTYPE html>
<html>
  <head>
    <title>- If Statement</title>
    <link rel="stylesheet" href="css/c04.css" />
  </head> <body>
    <section id="page1">
      <h1>Bullseye</h1>
       <section
id="answer">
    </section>
  </section>
  <script src="js/if-statement.js"></script>
</body> </html>
```


If statement- example



BULLSEYE!

TARGET PRACTICE FOR YOUR MIND

Congratulations!
Proceed to the next
round.



If ...else statement- example

```
var pass = 50;
  var score = 75;
var msg;
if (score > pass) {
  msg = 'Congratulations, you passed!';
} else {
  msg = 'Have another go!';
}
var el = document.getElementById('answer');
el.textContent = msg;
```

If ...else statement with function- example

```
var score = 75;
var msg = "";
function congratulate() {
    msg += 'Congratulations! ';
}
if (score >= 50) {
    congratulate();
    msg += 'Proceed to the next round.';
}
var el = document.getElementById('answer');
el.innerHTML = msg;
```

If ...else statement with function- example

Write a script to check someone's age and determine if the person can consume alcohol

to the minimum legal drinking age is 21