

LEARN JAVASCRIPT

FROM BEGINNER TO MASTER

```
40
41
42 $(function(){cards();});
43 $(window).on('resize', function(){cards();});
44 ▼ function cards(){
45     var width = $(window).width();
46     if(width < 750){
47         cardssmallscreen();
48     }else{
49         cardsbigscreen();
50     }
51 }
52 ▼ function cardssmallscreen(){
    var cards = $('<div>.card').length;
    var height = 0;
    card2 = 2;
    i = 1; i<=cards; i++){
        = $('<div>.card:nth-of-type(' + i + ')').height();
        = $('<div>.card:nth-of-type(' + i + ')').width();
    }
}
```

VIGO WEBS

Learn JavaScript: From Beginner to Master

VigoWebs

This book is for sale at <http://leanpub.com/learnjavascriptfrombeginnertomaster>

This version was published on 2020-03-08



This is a [Leanpub](#) book. Leanpub empowers authors and publishers with the Lean Publishing process. [Lean Publishing](#) is the act of publishing an in-progress ebook using lightweight tools and many iterations to get reader feedback, pivot until you have the right book and build traction once you do.

© 2019 - 2020 VigoWebs

Contents

Chapter 1 - Introduction to JavaScript	1
What Is JavaScript?	1
How JavaScript was created	1
JavaScript and the ECMAScript	1
JavaScript as Interpreted Language	1
How to run the JavaScript	1
Script Loading	2
Chapter 1 - Quiz	2
Chapter 2 - Variables and Datatypes	3
What is Variable?	3
Data Types	3
Chapter 2 - Quiz	4
Chapter 3 - Operators	5
Operators in JavaScript	5
Chapter 3 - Quiz	8
Chapter 4 - Control Flow	9
Control Flow	9
Block Statements	9
Conditional statements	9
Exception Handling	9
Chapter 4 - Quiz	10
Chapter 5 - Loops and Iteration	11
Loops and Iteration	11
Chapter 5 - Quiz	12
Chapter 6 - Functions	13
Functions	13
Chapter 6 - Quiz	14
Chapter 7 - Arrays	15
Arrays	15

CONTENTS

Array methods	15
Multi-dimensional Arrays	18
Chapter 7 - Quiz	18
Chapter 8 - Objects	19
Objects	19
Overview	19
Creating Objects	19
Chapter 8 - Quiz	19
Chapter 9 - Objects	21
Objects	21
Defining Methods	21
Iteration	21
Property descriptors and flags	22
Seal an Object	22
Property getters and setters	23
Chapter 9 - Quiz	23
Chapter 10 - Intermediate JavaScript 1	24
Strict mode	24
Truthy and Falsy	24
Type conversion	24
Converting strings to numbers	24
Automatic Semicolon Insertion	25
Avoid floating point problems	25
Chapter 10 - Quiz	25
Chapter 11 - Intermediate JavaScript 2	26
Boxed objects	26
Hoisting	26
Scope	26
Closures	26
Chapter 11 - Quiz	27
Chapter 12 - Intermediate JavaScript 3	28
Pass by value or Pass by reference	28
Call stack	28
What is this?	28
call, apply and bind	28
Chapter 12 - Quiz	29
Chapter 13 - Prototypes and Inheritance	30
Prototypes and Inheritance	30

CONTENTS

Prototypes	30
Constructors	30
Chapter 13 - Quiz	30
Chapter 14 - Object Oriented JavaScript	32
Object Oriented JavaScript	32
Chapter 14 - Quiz	36
Chapter 15 - ES6	39
ES6	39
Transpile and Polyfill	39
Block Scope Declarations	39
Spread and Rest	39
Default parameter value	39
Destructuring	39
Object Literal Extensions	40
Template Literals	40
Symbols	40
Chapter 15 - Quiz	40
Chapter 16 - ES6 Part 2	41
ES6 Continues	41
Arrow functions	41
for..of loop	41
Collections	41
Generators	42
Modules	42
Chapter 16 - Quiz	42
Chapter 17 - Class and Promises	43
Class and Promises	43
Class	43
Promises	44
Chapter 17 - Quiz	44
Chapter 18 - Advance JavaScript	45
Advance JavaScript	45
Event Loop	45
Async functions	45
Tail call optimization	45
Proxies	45
Reflect	45
Chapter 18 - Quiz	46

CONTENTS

Chapter 19 - Working with DOM	47
Working with DOM	47
Document Object Model	47
How to access DOM	47
Find an Element by ID	47
Find an Element by Tag name	47
Find an Element by class	47
Find elements by CSS selectors	48
Working with attributes	48
Changing CSS	48
Working with Events	48
Window onload and onunload	48
Adding new elements	48
Removing HTML elements	48
Chapter 19 - Quiz	49
Chapter 20 - Event Listener and BOM	50
Event Listener and BOM	50
addEventListener	50
Event bubbling and Event Capturing	50
Turing off propagation	50
BOM or Browser Object Model	51
Chapter 20 - Quiz	51
Chapter 21 - HTML5 APIs and Ajax	52
HTML5 APIs and Ajax	52
Geolocation API	52
Web Storage	52
LocalStorage	52
Offline Web Applications	52
Web workers	53
XMLHttpRequest or XHR	53
Chapter 21 - Quiz	53
Chapter 22 - JavaScript Oddities	54
JavaScript Oddities	54
Equal comparison	54
[] == ![]	54
NaN is not equal to NaN	54
baNaN	54
Minimal value is greater than zero	54
Adding arrays	55
Trailing commas in array	55
undefined and Number	55

CONTENTS

null is an object	55
Precision of $0.1 + 0.2$	55
Comparison of three numbers	55
Object as a key of object's property	55
try..catch finally	56
Multiple inheritance	56
A class of class	56
Tricky arrow functions	56
Arrow functions cannot be a constructor	56
arguments in arrow functions	56
Tricky return	56
Math.max() less than Math.min()	57
Comparing null to 0	57
Default behavior Array.prototype.sort()	57
Array and Object addition	57
Chapter 22 - Quiz	57

Chapter 1 - Introduction to JavaScript

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

What Is JavaScript?

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

How JavaScript was created

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

JavaScript and the ECMAScript

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

JavaScript as Interpreted Language

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

How to run the JavaScript

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Inline JavaScript

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

External JavaScript

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Script Loading

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Chapter 1 - Quiz

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Answers

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Chapter 2 - Variables and Datatypes

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

What is Variable?

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Data Types

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Number

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

String

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Boolean

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Null

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Undefined

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Objects

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Chapter 2 - Quiz

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Answers

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Chapter 3 - Operators

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Operators in JavaScript

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Assignment operators

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Comparison operators

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Arithmetic operators

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Bitwise operators

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Bitwise AND: &

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Bitwise OR: |

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Bitwise X OR: ^

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Bitwise NOT: ~

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Left shift: <<

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Right shift: >>

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Zero-fill right shift: >>>

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Logical operators

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Logical AND: &&

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Logical OR: ||

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Logical NOT: !

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

String operators

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Conditional or ternary operator

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Comma operator

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Unary operators

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

typeof

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

delete

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

void

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Relational operators

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

in

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Grouping operator

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Chapter 3 - Quiz

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Answers

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Chapter 4 - Control Flow

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Control Flow

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Block Statements

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Conditional statements

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

if-else statement

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

switch statement

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Exception Handling

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

try ... catch

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

finally block

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Chapter 4 - Quiz

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Answers

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Chapter 5 - Loops and Iteration

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Loops and Iteration

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

for loop

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

while statement

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

do ... while Statement

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

break statement

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

continue statement

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

for..in statement

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

for..of statement

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Chapter 5 - Quiz

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Answers

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Chapter 6 - Functions

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Functions

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Function declarations

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Function expressions

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

immediately invoked function

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Parameters and arguments

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

arguments object

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Chapter 6 - Quiz

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Answers

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Chapter 7 - Arrays

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Arrays

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Creating an array

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Populating array

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Looping over an Array

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Array methods

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

concat

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

join

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

push

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

pop

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

shift

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

unshift

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

slice

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

splice

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

reverse

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

sort

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

indexOf

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

lastIndexOf

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

forEach

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

map

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

filter

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

every

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

some

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

reduce

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Multi-dimensional Arrays

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Chapter 7 - Quiz

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Answers

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Chapter 8 - Objects

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Objects

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Overview

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Creating Objects

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Object initializers

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Constructor function

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Chapter 8 - Quiz

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Answers

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Chapter 9 - Objects

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Objects

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Defining Methods

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Iteration

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

for...in loop

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Object.keys()

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Object.getOwnPropertyNames()

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Property descriptors and flags

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Non-writable

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Non-enumerable

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Non-configurable

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Object.defineProperty

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Seal an Object

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Object.preventExtensions(obj)

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Object.seal(obj)

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Object.freeze(obj)

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Object.isExtensible(obj)

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Object.isSealed(obj)

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Object.isFrozen(obj)

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Property getters and setters

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Chapter 9 - Quiz

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Answers

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Chapter 10 - Intermediate JavaScript 1

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Strict mode

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Changes in strict mode

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Truthy and Falsy

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Type conversion

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Converting strings to numbers

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

parseInt()

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

parseFloat()

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Number()

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Automatic Semicolon Insertion

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Avoid floating point problems

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Chapter 10 - Quiz

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Answers

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Chapter 11 - Intermediate JavaScript 2

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Boxed objects

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Hoisting

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Scope

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Lexical scope

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Closures

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Closures inside loop

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Chapter 11 - Quiz

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Answers

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Chapter 12 - Intermediate JavaScript 3

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Pass by value or Pass by reference

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Call stack

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

What is this?

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Default binding

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Implicit binding

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

call, apply and bind

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Using call and apply

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Chapter 12 - Quiz

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Answers

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Chapter 13 - Prototypes and Inheritance

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Prototypes and Inheritance

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Prototypes

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Constructors

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Object.create()

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Performance

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Chapter 13 - Quiz

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Answers

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Chapter 14 - Object Oriented JavaScript

Object Oriented JavaScript

Object oriented programming or OOP is a methodology to create our program using Objects and Classes. The basic idea of OOP is that we use objects to model real world things that we want to represent inside our programs, and provide a simple way to access functionality that would otherwise be hard or impossible.

Objects can contain property, which represents information about the thing we are trying to model and methods or actions that represents a behavior. For example, if we think a car as an object, then the number of wheels, the type of car, the color of car becomes the properties of the car. And starting or stopping the car becomes actions. Data in objects can be stored neatly without exposing to the outer world (which is called encapsulation), can be given a specific name to refer to (which is sometimes called a namespace).

Consider we are going to develop an application for an organization where there are developers and managers. To handle the data of developers and managers we could create an object model like below:

```
1  function Developer(name, id) {
2      this.name = name;
3      this.id = id;
4      this.role = 'Developer';
5      this.greeting = function() {
6          console.log('Hello, I am a Developer');
7      }
8  }
9  function Manager(name, id) {
10     this.name = name;
11     this.id = id;
12     this.role = 'Manager';
13     this.greeting = function() {
14         console.log('Hello, I am a Manager');
15     }
16 }
```

If you can observe the above code, it has duplicate properties in both model, name and id. We can make this better by creating one parent objects and create two sub-objects for developer and manager.

```
1  function Employee(name, id) {
2      this.name = name;
3      this.id = id;
4  }
5  function Developer(name, id) {
6      Employee.call(this, name, id);
7      this.role = 'Developer';
8      this.greeting = function() {
9          console.log('Hello, I am a Developer');
10     }
11 }
12 function Manager(name, id) {
13     Employee.call(this, name, id);
14     this.role = 'Manager';
15     this.greeting = function() {
16         console.log('Hello, I am a Manager');
17     }
18 }
```

We have moved the common properties to the top of the prototype chain and let the child objects to call them. This make our developer and manager constructors more manageable. If you inspect more, we can see that the greeting action has almost similar in both. It is same in both except for the role. So we can also move this method to the top.

```
1  function Employee(name, id) {
2      this.name = name;
3      this.id = id;
4  }
5  Employee.prototype.greeting = function() {
6      console.log('Hello, I am a ' + this.role);
7  }
8  function Developer(name, id) {
9      Employee.call(this, name, id);
10     this.role = 'Developer';
11 }
12 Developer.prototype = Object.create(Employee.prototype);
13 Developer.constructor = Developer;
14 function Manager(name, id) {
15     Employee.call(this, name, id);
```



```
16     this.role = 'Manager';
17 }
18 Manager.prototype = Object.create(Employee.prototype);
19 Manager.constructor = Manager;
```

This looks even better. We have, like moved the common properties to top, moved the common methods to the top. We have also make our Developer and Manager inherits data and behavior from the Employee, so we can reuse functionality common to all the object types rather than having to duplicate it. Now let us check our models by creating instances of them.

```
1 var christine = new Manager('Christine', 1);
2 var joseph = new Developer('Joseph', 2);
3 christine.greeting();
4 // Hello, I am a Manager
5 joseph.greeting();
6 // Hello, I am a Developer
```

The greeting method is same in both objects and implemented the same functionality. But their result are different based on child objects. The ability of multiple object types to implement the same functionality is called polymorphism.

If you have noticed, we have assigned the constructor property of Developer (or Manager) to the same function again after the prototype. This is because, when we are overwriting the prototype, it also overwrites the constructor property to Employee. So we have manually adjust it back to its original value.

One of the other features in OOP is Encapsulation. Encapsulation is the ability of an object to be a container (or capsule) for its member properties, including variables and methods. This object can protect its data from outside world or restricting its access. Imaging our Developer object needs to have a private data which is noOfWorkingDays. It should be accessed like name or id which are common. Let us see how can we achieve this.

If you can remember, functions create scope. That means variables declared inside a function can not be accessed from outside. So creating a local variable, we can encapsulate our data inside the function.

```
1 function Developer(name, id) {
2     Employee.call(this, name, id);
3     this.role = 'Developer';
4     var numOfWorkingDays = 0;
5 }
6 var joseph = new Developer('Joseph', 2);
7 joseph.noOfWorkingDays; // undefined
```

If we want to expose this data to outside, we can create methods to write and read the data from the object. This way we can be sure that there is no way to directly manipulate our private data `numOfWorkingDays`. Any read or write operation should be done from our generated methods.

```
1  function Developer(name, id) {
2      Employee.call(this, name, id);
3      this.role = 'Developer';
4
5      var numOfWorkingDays = 0;
6
7      this.updateWorkingDays = function() {
8          numOfWorkingDays++;
9      }
10
11     this.getWorkingDays = function() {
12         return numOfWorkingDays;
13     }
```

We have created a method `updateWorkingDays` to increment the working days by 1 whenever invoked and `getWorkingDays` to access the value of the private variable `numOfWorkingDays`. Note that these methods are specific to `Developer`. `Manager` does not have these methods.

```
1  var joseph = new Developer('Joseph', 2);
2  joseph.getWorkingDays(); // 0
3  joseph.updateWorkingDays();
4  joseph.getWorkingDays(); // 1
```

These private variables are private to these objects which means other instances of the `Developer` object will have its own `numOfWorkingDays`.

```
1  joseph.getWorkingDays(); // 1
2  var andrew = new Developer('Andrew', 3);
3  andrew.getWorkingDays(); // 0
4  andrew.updateWorkingDays();
5  andrew.getWorkingDays(); // 1
```

Because of the way JavaScript works, with the prototype chain, etc., the sharing of functionality between objects is often called delegation. Specialized objects delegate functionality to a generic object type.

In terms of using inheritance in your own code, you probably won't use it often, especially to begin with, and in small projects. It is a waste of time to use objects and inheritance just for the sake of it when you don't need them. But as your code bases get larger, you are more likely to find a need for

it. If you find yourself starting to create a number of objects that have similar features, then creating a generic object type to contain all the shared functionality and inheriting those features in more specialized object types can be convenient and useful.

When using inheritance, you are advised to not have too many levels of inheritance, and to keep careful track of where you define your methods and properties. It is possible to start writing code that temporarily modifies the prototypes of built-in browser objects, but you should not do this unless you have a really good reason. Too much inheritance can lead to endless confusion, and endless pain when you try to debug such code.

Finally, using functions with prototype looks like lot of work to link objects. But since ES6 introduction of `class`, `extends` and `super`, it becomes very easy to create classes and share functionalities among them. We will explain all the ES6 features in the coming lessons.

Chapter 14 - Quiz

Oops! That was an incredible achievement. OOP or Object oriented programming is an important concept not only in JavaScript but in most of the languages that every developer should know. Go ahead and take this simple questions before you continue your journey.

1. Object oriented programming or OOP is a methodology to create our program using which of these?
 - a. Object and class
 - b. Data and behavior
 - c. Functions and scope
2. If you think of a car as an object, which of the below can be said to equal to starting the car?
 - a. method
 - b. property
 - c. data
3. Having a parent class to have common properties and methods leads to reducing code duplication.
 - a. True
 - b. False
4. The ability of multiple object types to implement the same functionality is called what?
 - a. Polymorphism
 - b. Encapsulation

c. OOP

5. The idea of OOP is to use objects to model real world things that we want to represent, and provide a simple way to access functionality that would otherwise be hard or impossible.

- a. True
- b. False

6. A class sometimes can shield its member from outside world and restrict access to them. How is this behavior called?

- a. Polymorphism
- b. Encapsulation
- c. OOP

7. Find the missing piece of code to complete the inheritance?

```
1  function Employee(name, id) {  
2      this.name = name;  
3      this.id = id;  
4  }  
5  
6  Employee.prototype.greeting = function() {  
7      console.log('Hello, I am a ' + this.role);  
8  }  
9  
10 function Developer(name, id) {  
11     Employee.call(this, name, id);  
12     this.role = 'Developer';  
13 }  
14  
15 // .....  
16 Developer.constructor = Developer;
```

- a. Developer.prototype = Object.create(Employee.prototype);
- b. Employee.prototype = Object.create(Employee.prototype);
- c. Employee.prototype = Object.create(Developer.prototype);

8. How can we create encapsulation in JavaScript?

- a. Using functions scope

- b. Using prototype
 - c. Using inheritance
9. Does different instances of a class share the same private variables?
- a. No
 - b. Yes
10. It is advised to have too many levels of inheritance. State true or false.
- a. True
 - b. False
11. With the prototype chain, etc., the sharing of functionality between objects is called ... ?
- a. sharing
 - b. delegation
 - c. polymorphism

Answers

1. **a);** Object oriented programming or OOP is a methodology to create our program using which of Object and class.
2. **a);** Starting or stopping car denotes an action. And in objects methods are doing some actions and properties are having some data.
3. **a);** True. When a parent class have common properties and methods, it leads to reducing code duplication.
4. **a);** The ability of multiple object types to implement the same functionality is called Polymorphism.
5. **a);** True. The basic idea of OOP is that we use objects to model real world things that we want to represent inside our programs, and provide a simple way to access functionality that would otherwise be hard or impossible.
6. **b);** Encapsulation is the ability of an object to be a container (or capsule) for its member properties, including variables and methods. This object can protect its data from outside world or restricting its access.
7. **a);** To inherit properties from Employee object, we need to modify the prototype of Developer to `Developer.prototype = Object.create(Employee.prototype)`.
8. **a);** Functions create scope, that means variables declared inside a function cannot be accessed from outside. So creating a local variable, we can encapsulate our data inside the function.
9. **a);** The private variables private to these objects which means other instance of the Developer object will have its own `numOfWorkingDays`.
10. **b);** When using inheritance, you are advised to not have too many levels of inheritance since it can lead to endless confusion, and pain.
11. **b);** The sharing of functionality between objects is often called delegation. Specialized objects delegate functionality to a generic object type.

Chapter 15 - ES6

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

ES6

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Transpile and Polyfill

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Block Scope Declarations

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Spread and Rest

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Default parameter value

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Destructuring

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Object Literal Extensions

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Template Literals

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Tagged template literal

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Symbols

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Symbols as Object Properties

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Chapter 15 - Quiz

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Answers

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Chapter 16 - ES6 Part 2

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

ES6 Continues

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Arrow functions

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

for..of loop

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Collections

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Maps

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

WeakMaps

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Set

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

WeakSet

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Generators

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Modules

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

import

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Chapter 16 - Quiz

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Answers

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Chapter 17 - Class and Promises

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Class and Promises

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Class

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

extends and super

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

new.target

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Static properties

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Getters and Setters

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Promises

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Promise.race

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Limitations

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Chapter 17 - Quiz

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Answers

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Chapter 18 - Advance JavaScript

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Advance JavaScript

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Event Loop

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Async functions

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Tail call optimization

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Proxies

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Reflect

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Reflect.apply

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Reflect.construct()

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Reflect.get()

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Reflect.has()

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Chapter 18 - Quiz

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Answers

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Chapter 19 - Working with DOM

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Working with DOM

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Document Object Model

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

How to access DOM

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Find an Element by ID

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Find an Element by Tag name

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Find an Element by class

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Find elements by CSS selectors

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Working with attributes

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Changing CSS

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Working with Events

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Window onload and onunload

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Adding new elements

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Removing HTML elements

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Chapter 19 - Quiz

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Answers

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Chapter 20 - Event Listener and BOM

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Event Listener and BOM

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

addEventListener

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Event bubbling and Event Capturing

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Turning off propagation

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

stopImmediatePropagation

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

preventDefault

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

BOM or Browser Object Model

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Window Size

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Location

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

History

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Navigator

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Popups

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Chapter 20 - Quiz

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Answers

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Chapter 21 - HTML5 APIs and Ajax

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

HTML5 APIs and Ajax

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Geolocation API

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Web Storage

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

LocalStorage

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

SessionStorage

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Offline Web Applications

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Web workers

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

XMLHttpRequest or XHR

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Chapter 21 - Quiz

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Answers

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Chapter 22 - JavaScript Oddities

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

JavaScript Oddities

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Equal comparison

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

```
[ ] == ![ ]
```

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

NaN is not equal to NaN

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

baNaNa

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Minimal value is greater than zero

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Adding arrays

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Trailing commas in array

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

undefined and Number

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

null is an object

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Precision of 0.1 + 0.2

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Comparison of three numbers

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Object as a key of object's property

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

try..catch finally

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Multiple inheritance

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

A class of class

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Tricky arrow functions

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Arrow functions cannot be a constructor

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

arguments in arrow functions

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Tricky return

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Math.max() less than Math.min()

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Comparing null to 0

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Default behavior Array.prototype.sort()

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Array and Object addition

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Chapter 22 - Quiz

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.

Answers

This content is not available in the sample book. The book can be purchased on Leanpub at <http://leanpub.com/learnjavascriptfrombeginnertomaster>.