Learning JavaScript Data Structures and Algorithms - Second Edition

Loiane Groner

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Key Features

- Understand common data structures and the associated algorithms, as well as the context in which they are used.
- Master existing JavaScript data structures such as array, set and map and learn how to implement new ones such as stacks, linked lists, trees and graphs.
- All concepts are explained in an easy way, followed by examples.

Book Description

This book begins by covering basics of the JavaScript language and introducing ECMAScript 7, before gradually moving on to the current implementations of ECMAScript 6. You will gain an in-depth knowledge of how hash tables and set data structure functions, as well as how trees and hash maps can be used to search files in a HD or represent a database. This book is an accessible route deeper into JavaScript. Graphs being one of the most complex data structures you'll encounter, we'll also give you a better understanding of why and how graphs are largely used in GPS navigation systems in social networks.

Toward the end of the book, you'll discover how all the theories presented by this book can be applied in real-world solutions while working on your own computer networks and Facebook searches.

What you will learn

- Declare, initialize, add, and remove items from arrays, stacks, and queues
- Get the knack of using algorithms such as DFS (Depth-first Search) and BFS (Breadth-First Search) for the most complex data structures
- Harness the power of creating linked lists, doubly linked lists, and circular linked lists
- Store unique elements with hash tables, dictionaries, and sets
- Use binary trees and binary search trees
- Sort data structures using a range of algorithms such as bubble sort, insertion sort, and quick sort

About the Author

Loiane Groner has over 10 years of experience in developing enterprise applications. She has worked at multinational companies, such as IBM, and nowadays she works as Software Development Manager at a financial institution, where she manages overseas solutions. Her areas of expertise include Java, Sencha technologies (Ext JS), and hybrid mobile development with PhoneGap and Ionic.

She is passionate about technology, and she has dedicated herself to spreading knowledge in the software development community through her blog http://loiane.com, as guest speaker in IT conferences, and also as guest professor in university extension courses.

While at university, she worked as teacher's assistant for 2 years for the Algorithms, Data Structures, and

Computing Theory classes. She represented her university at the ACM International Collegiate Programming Contest – Brazilian Finals (South America Regionals) and also worked as Student Delegate of SBC (Brazilian Computing Society). She won a merit award in her Senior year for being one of top three students with better GPAs in the Computer Science department and has also graduated with honors.

Loiane is also the author of the books Ext JS 4 First Look, Mastering Ext JS, Mastering Ext JS - Second Edition, Sencha Architect App Development, Learning JavaScript Data Structures and Algorithms, and JavaScript Regular Expression, all of them published by Packt Publishing.

If you want to keep in touch, you can find Loiane on Facebook (https://www.facebook.com/loianegroner), Twitter (@loiane), and also on Github (https://github.com/loiane).

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