JAVA with Data Structures

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| Course Duration: | * 45 minutes daily for 20 Days, break after every 4 days |
| Average time, students need to invest | * Daily 45 minutes lecture + 30 minutes self-study |
| Programming efforts | * Directly download the source from Git and Run |
| Pre-requisite | * JDK and Eclipse |
| JAVA packages covered | * Java.lang, java.utils, java.io |
| Benefits | * It’s just not a Java/DS specialization course but a simplified process, to make concepts simpler and easy to learn. * This course utilizes various psychological aspects of learning e.g. [Spacing Effect](https://en.wikipedia.org/wiki/Spacing_effect), [Forgetting Curve](https://en.wikipedia.org/wiki/Forgetting_curve), [Visuospatial Sketchpad](http://psychology.wikia.com/wiki/Visuospatial_sketchpad) etc. * After the end of this course, students will be able to start understanding the implementation of core Java classes. * After the end of this course, students will be able to delve further into complex algorithms and data structures. * After the end of this course, students will be more aligned and socialized for next level of learning. |

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| Content | Date | Status |
| * Day 1 |  |  |
| * + Introduction |  |  |
| * + Arrays |  |  |
| * + Stack using Array |  |  |
| * Day 2 |  |  |
| * + Stack revision |  |  |
| * + Queue using Array |  |  |
| * Day 3 |  |  |
| * + Stack revision |  |  |
| * + Queue revision |  |  |
| * + Questions on Stack/Queue |  |  |
| * Day 4 |  |  |
| * + Stack/Queue revision |  |  |
| * + Linked List |  |  |
| * Day 5 |  |  |
| * + Linked List revision |  |  |
| * + Circular Linked List |  |  |
| * + Questions on Linked List |  |  |
| * Day 6 |  |  |
| * + Circular Linked List revision |  |  |
| * + Double Ended Link List |  |  |
| * + Stack using Linked List |  |  |
| * + Queue using Linked List |  |  |
| * Day 7 |  |  |
| * + Revision of Linked List and Stack/Queue based on Linked List |  |  |
| * + Questions on Linked List and Stack/Queue based on Linked List |  |  |
| * Day 8 |  |  |
| * + Revision of Linked List |  |  |
| * + Revision of Array based Stack/Queue |  |  |
| * + Revision of Linked List based Stack/Queue |  |  |
| * Day 9 |  |  |
| * + Examples of Stack |  |  |
| * + Examples of Queue |  |  |
| * + Examples of Linked List |  |  |
| * Day 10 |  |  |
| * + Binary Tree |  |  |
| * Day 11 |  |  |
| * + Revision of Binary Tree |  |  |
| * + Binary Search |  |  |
| * + Liner Search |  |  |
| * Day 12 |  |  |
| * + Revision of Binary Tree |  |  |
| * + Revision of Binary Search |  |  |
| * + Revision of Linear Search |  |  |
| * Day 13 |  |  |
| * + Shell Sort |  |  |
| * + Revision of Binary Tree |  |  |
| * Day 14 |  |  |
| * + Revision of Shell Sort |  |  |
| * + Partitioning |  |  |
| * + Quick Sort |  |  |
| * Day 15 |  |  |
| * + Revision of Shell Sort |  |  |
| * + Revision of Partitioning |  |  |
| * + Revision of Quick Sort |  |  |
| * Day 16 |  |  |
| * + Revision of Shell Sort |  |  |
| * + Revision of Quick Sort |  |  |
| * + Hash Table |  |  |
| * Day 17 |  |  |
| * + Revision of Hash Table |  |  |
| * + Heaps |  |  |
| * Day 18 |  |  |
| * + Revision of Hash Table |  |  |
| * + Revision of Heaps |  |  |
| * Day 19 |  |  |
| * + Revision of Linked List |  |  |
| * + Revision of Array based Stack/Queue |  |  |
| * + Revision of Linked List based Stack/Queue |  |  |
| * + Revision of Shell Sort |  |  |
| * + Revision of Quick Sort |  |  |
| * Day 20 |  |  |
| * + Revision of Binary Search |  |  |
| * + Revision of Linear Search |  |  |
| * + Revision of Hash Table |  |  |
| * + Revision of Heaps |  |  |