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| Data Structure | |
| **SOURCE: 01** | **Data Structure (GATE EXAM)** |
| 01 | [Roadmap of DSA Syllabus](https://www.youtube.com/watch?v=qNGyI95E5AE&list=PLxCzCOWd7aiEwaANNt3OqJPVIxwp2ebiT&index=1&pp=iAQB) |
| 02 | [Introduction to Data Structure with Real Life Examples](https://www.youtube.com/watch?v=3cU__spdMIw&list=PLxCzCOWd7aiEwaANNt3OqJPVIxwp2ebiT&index=2&pp=iAQB) |
| 03 | [Arrays in Data Structure | Initialization, Declaration, Memory Representation](https://www.youtube.com/watch?v=6e6yKtr2VGI&list=PLxCzCOWd7aiEwaANNt3OqJPVIxwp2ebiT&index=3&pp=iAQB) |
| 04 | [Types of Array | One Dimensional and Multi-dimensional Array](https://www.youtube.com/watch?v=lAEmhJA-tVw&list=PLxCzCOWd7aiEwaANNt3OqJPVIxwp2ebiT&index=4&pp=iAQB) |
| 05 | [Addressing in One Dimensional Array](https://www.youtube.com/watch?v=JTfPmCiLhz0&list=PLxCzCOWd7aiEwaANNt3OqJPVIxwp2ebiT&index=5&pp=iAQB) |
| 06 | [Arrays | Addressing in 2D Arrays | Row Major Order](https://www.youtube.com/watch?v=BNA6Sb1wM8E&list=PLxCzCOWd7aiEwaANNt3OqJPVIxwp2ebiT&index=6&pp=iAQB) |
| 07 | [3D Arrays | Addressing in 3D Arrays | Row Major Order](https://www.youtube.com/watch?v=mzfhcfa0Ra0&list=PLxCzCOWd7aiEwaANNt3OqJPVIxwp2ebiT&index=7&pp=iAQB) |
| 08 | [Addressing in Lower Triangular Matrix](https://www.youtube.com/watch?v=X-vk__Y1Tgk&list=PLxCzCOWd7aiEwaANNt3OqJPVIxwp2ebiT&index=8&pp=iAQB) |
| 09 | [Find 2nd Largest Number in Array](https://www.youtube.com/watch?v=eIm9ODShmCI&list=PLxCzCOWd7aiEwaANNt3OqJPVIxwp2ebiT&index=9&pp=iAQB) |
| 10 | [Two Pointer Technique | Two Sum Problem in Data Structure](https://www.youtube.com/watch?v=B2L4mAglJZA&list=PLxCzCOWd7aiEwaANNt3OqJPVIxwp2ebiT&index=10&pp=iAQB) |
| 11 | [Maximum Sum Subarray Problem | Understand Naïve Approach](https://www.youtube.com/watch?v=9N3hDuS28EI&list=PLxCzCOWd7aiEwaANNt3OqJPVIxwp2ebiT&index=11&pp=iAQB) |
| 12 | [Sliding Window Technique](https://www.youtube.com/watch?v=uqGxFk0cEdI&list=PLxCzCOWd7aiEwaANNt3OqJPVIxwp2ebiT&index=12&pp=iAQB) |
| 13 | [Remove Duplicate Elements in Sorted Array | Various Methods](https://www.youtube.com/watch?v=f1BTfBv22og&list=PLxCzCOWd7aiEwaANNt3OqJPVIxwp2ebiT&index=13&pp=iAQB) |
| 14 | [Linear Search in Data Structure | Time Complexity](https://www.youtube.com/watch?v=t9gErvSVid0&list=PLxCzCOWd7aiEwaANNt3OqJPVIxwp2ebiT&index=14&pp=iAQB) |
| 15 | [Binary Search in Data Structure](https://www.youtube.com/watch?v=9HlbVEVt_Y0&list=PLxCzCOWd7aiEwaANNt3OqJPVIxwp2ebiT&index=15&pp=iAQB) |
| 16 | [Introduction to Linked List | Types and Need of Linked List](https://www.youtube.com/watch?v=Y3Ckd3OW0_g&list=PLxCzCOWd7aiEwaANNt3OqJPVIxwp2ebiT&index=16&pp=iAQB) |
| 17 | [Arrays vs Linked List](https://www.youtube.com/watch?v=d4pp0noHOB8&list=PLxCzCOWd7aiEwaANNt3OqJPVIxwp2ebiT&index=17&pp=iAQB) |
| 18 | [Single Linked List in Data Structure | Self Referential Structure](https://www.youtube.com/watch?v=M1SlAsRCZvM&list=PLxCzCOWd7aiEwaANNt3OqJPVIxwp2ebiT&index=18&pp=iAQB) |
| 19 | [The Basic Operations of Linked List](https://www.youtube.com/watch?v=0XKlbNJLvjs&list=PLxCzCOWd7aiEwaANNt3OqJPVIxwp2ebiT&index=19&pp=iAQB) |
| 20 | [Traversing in Linked List](https://www.youtube.com/watch?v=I16sYpAwBEg&list=PLxCzCOWd7aiEwaANNt3OqJPVIxwp2ebiT&index=20&pp=iAQB) |
| 21 | [Insert a Node At The Beginning of Linked List](https://www.youtube.com/watch?v=v5QzD4Rkar8&list=PLxCzCOWd7aiEwaANNt3OqJPVIxwp2ebiT&index=21&pp=iAQB) |
| 22 | [Insert a Node At the End of Linked List](https://www.youtube.com/watch?v=ZTTy6jTTJUI&list=PLxCzCOWd7aiEwaANNt3OqJPVIxwp2ebiT&index=22&pp=iAQB) |
| 23 | [Insert a Node After a Given Node in Linked](https://www.youtube.com/watch?v=B6_uo7KA20M&list=PLxCzCOWd7aiEwaANNt3OqJPVIxwp2ebiT&index=23&pp=iAQB) |
| 24 | [Delete a Node From The Beginning of Linked List](https://www.youtube.com/watch?v=bGU37FZnN7c&list=PLxCzCOWd7aiEwaANNt3OqJPVIxwp2ebiT&index=24&pp=iAQB) |
| 25 | [Delete a Node From The End of Linked List](https://www.youtube.com/watch?v=dzmnI9hCk6E&list=PLxCzCOWd7aiEwaANNt3OqJPVIxwp2ebiT&index=25&pp=iAQB) |
| 26 | [Deletion After a Given Node in Linked List](https://www.youtube.com/watch?v=n8kLcrzsuec&list=PLxCzCOWd7aiEwaANNt3OqJPVIxwp2ebiT&index=26&pp=iAQB) |
| 27 | [Deleting Entire Linked List | Single Linked List](https://www.youtube.com/watch?v=-AXzieE0umw&list=PLxCzCOWd7aiEwaANNt3OqJPVIxwp2ebiT&index=27&pp=iAQB) |
| 28 | [Introduction to Double Linked List](https://www.youtube.com/watch?v=818gGdKTB_U&list=PLxCzCOWd7aiEwaANNt3OqJPVIxwp2ebiT&index=28&pp=iAQB) |
| 29 | [How to Find a Cycle in Linked List | 2 Pointer Algorithm](https://www.youtube.com/watch?v=f-JWjs8NtFQ&list=PLxCzCOWd7aiEwaANNt3OqJPVIxwp2ebiT&index=29&pp=iAQB) |
| 30 | [Introduction to Stack | PUSH and POP Operations](https://www.youtube.com/watch?v=HRDHgKrYHgU&list=PLxCzCOWd7aiEwaANNt3OqJPVIxwp2ebiT&index=30&pp=iAQB) |
| 31 | [PUSH Operation Using Array | Implementation of Stack](https://www.youtube.com/watch?v=rR0WheIxDC0&list=PLxCzCOWd7aiEwaANNt3OqJPVIxwp2ebiT&index=31&pp=iAQB) |
| 32 | [POP Operation Using Array | Implementation of Stack](https://www.youtube.com/watch?v=k8gKrc_aaQc&list=PLxCzCOWd7aiEwaANNt3OqJPVIxwp2ebiT&index=32&pp=iAQB) |
| 33 | [PUSH Operation Using Linked List | Implementation of Stack](https://www.youtube.com/watch?v=S0Z7K-5HG_Y&list=PLxCzCOWd7aiEwaANNt3OqJPVIxwp2ebiT&index=33&pp=iAQB) |
| 34 | [POP Operation Using Linked List | Implementation of Stack](https://www.youtube.com/watch?v=Ava0zesUeik&list=PLxCzCOWd7aiEwaANNt3OqJPVIxwp2ebiT&index=34&pp=iAQB) |
| 35 | [Recursion vs Loop | How Both Approaches Work](https://www.youtube.com/watch?v=J4ucdS7uvls&list=PLxCzCOWd7aiEwaANNt3OqJPVIxwp2ebiT&index=35&pp=iAQB) |
| 36 | [Infix, Prefix and Postfix with Examples](https://www.youtube.com/watch?v=vtyuftvugXY&list=PLxCzCOWd7aiEwaANNt3OqJPVIxwp2ebiT&index=36&pp=iAQB) |
| 37 | [Infix to Prefix Conversion | Infix to Prefix Conversion with Examples](https://www.youtube.com/watch?v=f6xHar7x_SQ&list=PLxCzCOWd7aiEwaANNt3OqJPVIxwp2ebiT&index=37&pp=iAQB) |
| 38 | [Infix to Postfix Conversion | Infix to Postfix Conversion with Examples](https://www.youtube.com/watch?v=41FCbf7IbUY&list=PLxCzCOWd7aiEwaANNt3OqJPVIxwp2ebiT&index=38&pp=iAQB) |
| 39 | [Infix to Prefix Conversion Using Stack](https://www.youtube.com/watch?v=E0QGRN-zi_c&list=PLxCzCOWd7aiEwaANNt3OqJPVIxwp2ebiT&index=39&pp=iAQB) |
| 40 | [Infix to Postfix Conversion Using Stack](https://www.youtube.com/watch?v=N1Sr-j-cf4c&list=PLxCzCOWd7aiEwaANNt3OqJPVIxwp2ebiT&index=40&pp=iAQB) |
| 41 | [Question on Infix to Postfix notation](https://www.youtube.com/watch?v=aOa9Jo2Msnk&list=PLxCzCOWd7aiEwaANNt3OqJPVIxwp2ebiT&index=41&pp=iAQB) |
| 42 | [Postfix Expression Evaluation | Stack Application](https://www.youtube.com/watch?v=dc4bfoxIbu8&list=PLxCzCOWd7aiEwaANNt3OqJPVIxwp2ebiT&index=42&pp=iAQB) |
| 43 | [Question On Postfix Evaluation | Stack](https://www.youtube.com/watch?v=a9IXpAy827c&list=PLxCzCOWd7aiEwaANNt3OqJPVIxwp2ebiT&index=43&pp=iAQB) |
| 44 | [Understanding Call Stack with Example](https://www.youtube.com/watch?v=x9yuHFyuWZg&list=PLxCzCOWd7aiEwaANNt3OqJPVIxwp2ebiT&index=44&pp=iAQB) |
| 45 | [The Magic Recursion: Understanding The Power of Recursive Function](https://www.youtube.com/watch?v=E3i5Tm9k38s&list=PLxCzCOWd7aiEwaANNt3OqJPVIxwp2ebiT&index=45&pp=iAQB) |
| 46 | [Introduction to Queue Data Structure with Real Life Example](https://www.youtube.com/watch?v=YMzZTTO2MpE&list=PLxCzCOWd7aiEwaANNt3OqJPVIxwp2ebiT&index=46&pp=iAQB) |
| 47 | [Enqueue(), Dequeue() and Other Operations on Queue](https://www.youtube.com/watch?v=jvSdGoNnQo4&list=PLxCzCOWd7aiEwaANNt3OqJPVIxwp2ebiT&index=47&pp=iAQB) |
| 48 | [Dequeue() in Queue Using Array](https://www.youtube.com/watch?v=PpfHfB8CSWc&list=PLxCzCOWd7aiEwaANNt3OqJPVIxwp2ebiT&index=48&pp=iAQB) |
| 49 | [Isfull() and isempty() in Queue | Queue Operations](https://www.youtube.com/watch?v=2K1qUZy-hAw&list=PLxCzCOWd7aiEwaANNt3OqJPVIxwp2ebiT&index=49&pp=iAQB) |
| 50 | [Implementation of Queue Using Array | Enqueue() in Queue](https://www.youtube.com/watch?v=hGbphQIOHYs&list=PLxCzCOWd7aiEwaANNt3OqJPVIxwp2ebiT&index=50&pp=iAQB) |
| 51 | [Implementation of Queue Using Linked List | Euqueue() in Queue](https://www.youtube.com/watch?v=XqtbBB-Y-Zs&list=PLxCzCOWd7aiEwaANNt3OqJPVIxwp2ebiT&index=51&pp=iAQB) |
| 52 | [Introduction to Trees | Binary Tree, Almost Complete Binary Tree | Full BT](https://www.youtube.com/watch?v=z0Vnno96_MA&list=PLxCzCOWd7aiEwaANNt3OqJPVIxwp2ebiT&index=52&pp=iAQB) |
| 53 | [Binary Search Tree in Data Structure | Insertion and Traversal in BST](https://www.youtube.com/watch?v=sXABdGalFNg&list=PLxCzCOWd7aiEwaANNt3OqJPVIxwp2ebiT&index=53&pp=iAQB) |
| 54 | [Deletion From Binary Search Tree (BST) with Example](https://www.youtube.com/watch?v=hL9RUD33nYs&list=PLxCzCOWd7aiEwaANNt3OqJPVIxwp2ebiT&index=54&pp=iAQB) |
| 55 | [Find Preorder, Post-Order, In-Order of Binary Search Tree (BST)](https://www.youtube.com/watch?v=uI77Ij5Kiic&list=PLxCzCOWd7aiEwaANNt3OqJPVIxwp2ebiT&index=55&pp=iAQB) |
| 56 | [Preorder, In-Order and Post-Order in 5 Minute | Tree Traversal | Easiest and Shortest](https://www.youtube.com/watch?v=XRcC7bAtL3c&list=PLxCzCOWd7aiEwaANNt3OqJPVIxwp2ebiT&index=56&pp=iAQB) |
| 57 | [Question on Binary Search Tree](https://www.youtube.com/watch?v=XU2YE1CLDMk&list=PLxCzCOWd7aiEwaANNt3OqJPVIxwp2ebiT&index=57&pp=iAQB) |
| 58 | [Introduction to AVL Tree in Data Structure with Example](https://www.youtube.com/watch?v=E9DOBLNB-aE&list=PLxCzCOWd7aiEwaANNt3OqJPVIxwp2ebiT&index=58&pp=iAQB) |
| 59 | [How to Crate AVL Tree | LL, RR, LR, RL Rotation in AVL](https://www.youtube.com/watch?v=vEZ3-bdPdUQ&list=PLxCzCOWd7aiEwaANNt3OqJPVIxwp2ebiT&index=59&pp=iAQB) |
| 60 | [AVL Tree Creation in Data Structure | All Points](https://www.youtube.com/watch?v=VKV8PYhcQoo&list=PLxCzCOWd7aiEwaANNt3OqJPVIxwp2ebiT&index=60&pp=iAQB) |
| 61 | [Time Complexities of All Trees | Binary Tree, Binary Search Tree, AVL Tree, Heap Tree](https://www.youtube.com/watch?v=-qqGce9Cijw&list=PLxCzCOWd7aiEwaANNt3OqJPVIxwp2ebiT&index=61&pp=iAQB) |
| 62 | [Introduction to Red-Black Tree](https://www.youtube.com/watch?v=hq_3iqS0Hq0&list=PLxCzCOWd7aiEwaANNt3OqJPVIxwp2ebiT&index=62&pp=iAQB) |
| 63 | [Insertion in Red Black Tree](https://www.youtube.com/watch?v=tvY0Xv5dVuc&list=PLxCzCOWd7aiEwaANNt3OqJPVIxwp2ebiT&index=63&pp=iAQB) |
| 64 | [Topological Order / Sort in DAG (Direct Acyclic Graph)](https://www.youtube.com/watch?v=ChxA6H2253I&list=PLxCzCOWd7aiEwaANNt3OqJPVIxwp2ebiT&index=64&pp=iAQB) |

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| Design Pattern | |
| **SOURCE: 01** | **Design Patterns** |
| 01 | [What are Design Patterns | Introduction to Design Patterns and Principles](https://www.youtube.com/watch?v=mE3qTp1TEbg&list=PLlsmxlJgn1HJpa28yHzkBmUY-Ty71ZUGc&index=1&pp=iAQB) |
| 02 | [The Singleton Pattern Explained and Implemented in Java | Creational Pattern](https://www.youtube.com/watch?v=tSZn4wkBIu8&list=PLlsmxlJgn1HJpa28yHzkBmUY-Ty71ZUGc&index=2&pp=iAQB) |
| 03 | [The Factory Method Pattern Explained and Implemented in Java | Creational Pattern](https://www.youtube.com/watch?v=EdFq_JIThqM&list=PLlsmxlJgn1HJpa28yHzkBmUY-Ty71ZUGc&index=3&pp=iAQB) |
| 04 | [The Abstract Factory Patten Explained and Implemented | Creational Pattern](https://www.youtube.com/watch?v=QNpwWkdFvgQ&list=PLlsmxlJgn1HJpa28yHzkBmUY-Ty71ZUGc&index=4&pp=iAQB) |
| 05 | [The Builder Pattern Explained and Implemented in Java | Creational Pattern](https://www.youtube.com/watch?v=MaY_MDdWkQw&list=PLlsmxlJgn1HJpa28yHzkBmUY-Ty71ZUGc&index=5&pp=iAQB) |
| 06 | [The Prototype Pattern Explained and Implemented in Java | Creational Pattern](https://www.youtube.com/watch?v=DcFhITC9v0E&list=PLlsmxlJgn1HJpa28yHzkBmUY-Ty71ZUGc&index=6&pp=iAQB) |
| 07 | [The Chain of Responsibility Pattern Explained and Implemented | Behavioral Pattern](https://www.youtube.com/watch?v=FafNcoBvVQo&list=PLlsmxlJgn1HJpa28yHzkBmUY-Ty71ZUGc&index=7&pp=iAQB) |
| 08 | [The Command Pattern Explained and Implemented in Java | Behavioral Pattern](https://www.youtube.com/watch?v=UfGD60BYzPM&list=PLlsmxlJgn1HJpa28yHzkBmUY-Ty71ZUGc&index=8&pp=iAQB) |
| 09 | [The Template Method Pattern Explained Implemented in Java | Behavioral Pattern](https://www.youtube.com/watch?v=cGoVDzHvD4A&list=PLlsmxlJgn1HJpa28yHzkBmUY-Ty71ZUGc&index=9&pp=iAQB) |
| 10 | [The Mediator Pattern Explained and Implemented in Java | Behavioral Pattern](https://www.youtube.com/watch?v=35D5cBosD4c&list=PLlsmxlJgn1HJpa28yHzkBmUY-Ty71ZUGc&index=10&pp=iAQB) |
| 11 | [The Memento Pattern Explained and Implemented in Java | Behavioral Pattern](https://www.youtube.com/watch?v=_Q5rXfGuyLQ&list=PLlsmxlJgn1HJpa28yHzkBmUY-Ty71ZUGc&index=11&pp=iAQB) |
| 12 | [The Observer Pattern Explained and Implemented in Java | Behavioral Pattern](https://www.youtube.com/watch?v=-oLDJ2dbadA&list=PLlsmxlJgn1HJpa28yHzkBmUY-Ty71ZUGc&index=12&pp=iAQB) |
| 13 | [The State Pattern Explained and Implemented in Java | Behavioral Pattern](https://www.youtube.com/watch?v=abX4xzaAsoc&list=PLlsmxlJgn1HJpa28yHzkBmUY-Ty71ZUGc&index=13&pp=iAQB) |
| 14 | [The Iterator Pattern Explained and Implemented in Java | Behavioral Pattern](https://www.youtube.com/watch?v=QCWJWfuAfJc&list=PLlsmxlJgn1HJpa28yHzkBmUY-Ty71ZUGc&index=15&pp=iAQB) |
| 15 | [The Visitor Pattern Explained and Implemented in Java | Behavioral Pattern](https://www.youtube.com/watch?v=UQP5XqMqtqQ&list=PLlsmxlJgn1HJpa28yHzkBmUY-Ty71ZUGc&index=16&pp=iAQB) |
| 16 | [The Adapter Pattern Explained and Implemented in Java | Structural Pattern](https://www.youtube.com/watch?v=wA3keqCeKtM&list=PLlsmxlJgn1HJpa28yHzkBmUY-Ty71ZUGc&index=17&pp=iAQB) |
| 17 | [The Bridge Pattern Explained and Implemented in Java | Structural Pattern](https://www.youtube.com/watch?v=88kAIisOiYs&list=PLlsmxlJgn1HJpa28yHzkBmUY-Ty71ZUGc&index=18&pp=iAQB) |
| 18 | [The Composite Pattern Explained and Implemented in Java | Structural Pattern](https://www.youtube.com/watch?v=oo9AsGqnisk&list=PLlsmxlJgn1HJpa28yHzkBmUY-Ty71ZUGc&index=19&pp=iAQB) |
| 19 | [The Decorator Pattern Explained and Implemented in Java | Structural Pattern](https://www.youtube.com/watch?v=v6tpISNjHf8&list=PLlsmxlJgn1HJpa28yHzkBmUY-Ty71ZUGc&index=20&pp=iAQB) |
| 20 | [The Façade Pattern Explained and Implemented in Java | Structural Pattern](https://www.youtube.com/watch?v=xWk6jvqyhAQ&list=PLlsmxlJgn1HJpa28yHzkBmUY-Ty71ZUGc&index=21&pp=iAQB) |
| 21 | [The Flyweight Pattern Explained and Implemented in Java | Structural Pattern](https://www.youtube.com/watch?v=qscOsQV-K14&list=PLlsmxlJgn1HJpa28yHzkBmUY-Ty71ZUGc&index=22&pp=iAQB) |
| 22 | [The Proxy Pattern Explained and Implemented in Java | Structural Pattern](https://www.youtube.com/watch?v=TS5i-uPXLs8&list=PLlsmxlJgn1HJpa28yHzkBmUY-Ty71ZUGc&index=23&pp=iAQB) |