

CE205 Data Structures Week-2

Linked Lists, Arrays, Matrix

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1 CE103 Algorithms and Programming I

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Download DOC¹, SLIDE², PPTX³

2.1 Resources

WilliamFiset - YouTube⁴

GitHub - williamfiset/Algorithms: A collection of algorithms and data structures⁵

Data Structures Tutorials - Introduction to Algorithms⁶

Data Structure and Types⁷

Array Data Structure - GeeksforGeeks⁸

Single Linked List

1. Data Structures Tutorials - Single Linked List with an example⁹

2. <https://visualgo.net/en/list>

¹[ce205-week-2-linkedlist.md_doc.pdf](#)

²[ce205-week-2-linkedlist.md_slide.pdf](#)

³[ce205-week-2-linkedlist.md_slide.pptx](#)

⁴<https://www.youtube.com/c/WilliamFiset-videos/playlists>

⁵<https://github.com/williamfiset/Algorithms>

⁶http://www.btechsmartclass.com/data_structures/introduction-to-algorithms.html

⁷<https://www.programiz.com/dsa/data-structure-types>

⁸<https://www.geeksforgeeks.org/array-data-structure/?ref=ghm>

⁹http://www.btechsmartclass.com/data_structures/single-linked-list.html

Circular Linked List

1. Data Structures Tutorials - Circular Linked List with an example | Implementation¹⁰
 2. Circular Linked List | Set 1 (Introduction and Applications) - GeeksforGeeks¹¹
 3. Circular Linked List | Set 2 (Traversal) - GeeksforGeeks¹²
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Double Linked List

1. Data Structures Tutorials - Double Linked List with an example program¹³
 2. Doubly Linked List | Set 1 (Introduction and Insertion) - GeeksforGeeks¹⁴
 3. Linked List (Single, Doubly), Stack, Queue, Deque - VisuAlgo¹⁵
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XOR Linked List

1. XOR linked list - Wikipedia¹⁶
 2. XOR Linked List - A Memory Efficient Doubly Linked List | Set 1 - GeeksforGeeks¹⁷
 3. XOR Linked List - A Memory Efficient Doubly Linked List | Set 2 - GeeksforGeeks¹⁸
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Skip List

1. Skip list - Wikipedia¹⁹
 2. Skip List | Set 1 (Introduction) - GeeksforGeeks²⁰
 3. Skip List | Set 2 (Insertion) - GeeksforGeeks²¹
 4. Skip List | Set 3 (Searching and Deletion) - GeeksforGeeks²²
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Strand Sort

1. Strand Sort - GeeksforGeeks²³
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Arrays

1. Array Data Structure - GeeksforGeeks²⁴
2. Data structures Tutorials - Arrays²⁵
3. Circular array - GeeksforGeeks²⁶

¹⁰http://www.btechsmartclass.com/data_structures/circular-linked-list.html

¹¹<https://www.geeksforgeeks.org/circular-linked-list/>

¹²<https://www.geeksforgeeks.org/circular-linked-list-set-2-traversal/>

¹³http://www.btechsmartclass.com/data_structures/double-linked-list.html

¹⁴<https://www.geeksforgeeks.org/doubly-linked-list/>

¹⁵<https://visualgo.net/en/list>

¹⁶https://en.wikipedia.org/wiki/XOR_linked_list

¹⁷<https://www.geeksforgeeks.org/xor-linked-list-a-memory-efficient-doubly-linked-list-set-1/>

¹⁸<https://www.geeksforgeeks.org/xor-linked-list-a-memory-efficient-doubly-linked-list-set-2/>

¹⁹https://en.wikipedia.org/wiki/Skip_list

²⁰<https://www.geeksforgeeks.org/skip-list/>

²¹<https://www.geeksforgeeks.org/skip-list-set-2-insertion/>

²²<https://www.geeksforgeeks.org/skip-list-set-3-searching-deletion/>

²³<https://www.geeksforgeeks.org/strand-sort/>

²⁴<https://www.geeksforgeeks.org/array-data-structure/>

²⁵http://www.btechsmartclass.com/data_structures/arrays.html

²⁶<https://www.geeksforgeeks.org/circular-array/>

Array Rotations

1. Program for array rotation - GeeksforGeeks²⁷
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Arrangement Rearrangement

1. Array Rearrangement - GeeksforGeeks²⁸
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Searching and Sorting

1. Difference between Searching and Sorting Algorithms - GeeksforGeeks²⁹
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Optimization Problems

Matrix

1. Matrix Archives - GeeksforGeeks³⁰
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Sparse Matrix

1. Data Structures Tutorials - Sparse Matrix with an example³¹

²⁷<https://www.geeksforgeeks.org/array-rotation/>

²⁸<https://www.geeksforgeeks.org/array-data-structure/array-rearrangement/>

²⁹<https://www.geeksforgeeks.org/difference-between-searching-and-sorting-algorithms/>

³⁰<https://www.geeksforgeeks.org/matrix/?ref=ghm>

³¹http://www.btechsmartclass.com/data_structures/sparse-matrix.html