CE205 Data Structures Week-6

Graph MST, Backtracking, Topological Sorting, Shortest Paths, Connectivity,Max Flow and Cycle Detection Algorithms. Graph Isomorphism and canonization,Graph Cuts

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- CE100
  - https://ucoruh.github.io/ce100-algorithms-and-programming-II/week-10/ce100-week-10-graphs/?h=topolo#directed-acyclic-graphs-dag

[1] ce205-week-6-graph-algorithms.md_doc.pdf
[2] ce205-week-6-graph-algorithms.md_slide.pdf
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- Geeks for Geeks
  - https://www.geeksforgeeks.org/topological-sorting/

2.0.8 Graph MST

- CE100
  - https://ucoruh.github.io/ce100-algorithms-and-programming-II/week-10/ce100-week-10-graphs/?h=mst#minimum-spanning-tree-mst
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2.0.9 Graph Backtracking

- Tug of War
  - Geeks for Geeks
    - https://www.geeksforgeeks.org/tug-of-war/

2.0.10 Graph Backtracking

- n-Queen's Problem
  - Geeks for Geeks
    - https://www.geeksforgeeks.org/n-queen-problem-backtracking-3/?ref=lbp

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2.0.11 Graph Backtracking

- m Coloring Problem
  - Geeks for Geeks
    - https://www.geeksforgeeks.org/m-coloring-problem-backtracking-5/
  - Tutorials Point
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2.0.12 Graph Backtracking

- Euler & Hamiltonian Path
  - https://www.geeksforgeeks.org/mathematics-euler-hamiltonian-paths/

2.0.13 Graph Sortest Paths

- Single-Source Shortest Paths (SSSP)
  - https://ucoruh.github.io/ce100-algorithms-and-programming-II/week-11/ce100-week-11-shortestpath/
  - https://visualgo.net/en/sssp?slide=1

2.0.14 Graph Connectivity

- Strongly Connected Components
  - https://ucoruh.github.io/ce100-algorithms-and-programming-II/tr/week-10/ce100-week-10-graphs/?h=scc#strongly-connected-components-scc

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2.0.15 Graph Max Flow

- Geeks for Geeks
  - https://www.geeksforgeeks.org/max-flow-problem-introduction/

2.0.16 Graph Isomorphism

- https://www.sciencedirect.com/science/article/pii/S0747717113001193
- https://www3.cs.stonybrook.edu/~algorith/implement/nauty/implement.shtml
- https://github.com/Mith13/Graphs-isomorphism

2.0.17 Graph Cuts

1. Min Cuts
2. Max Cuts

- Wikipedia
  - https://en.wikipedia.org/wiki/Cut_(graph_theory)#:~:text=In%20graph%20theory%2C%20a%20cut,said%20to

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2.0.18 Graph canonization

- Wikipedia
  - https://en.wikipedia.org/wiki/ Graph_canonization

2.0.19 Cycle Detection

- https://ucoruh.github.io/ce100-algorithms-and-programming-II/week-10/ce100-week-10-graphs/#cycle-detection

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2.0.20 Graph Coloring

- https://ucoruh.github.io/ce100-algorithms-and-programming-II/week-10/ce100-week-10-graphs/#graph-coloring

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2.0.21 Alpha-Beta Pruning

- Geeks for Geeks
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2.0.22 Hasse Diagrams

- Geeks for Geeks
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2.0.23 Petri Nets

- Wikipedia
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2.0.24 Bipartite Graphs

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2.0.25 Cycle Detection

- Brent's Algorithm
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    - https://www.geeksforgeeks.org/brents-cycle-detection-algorithm/
- Hare and Tortoise Algorithm
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2.0.26 Cycle Detection

- CE100
  - https://ucoruh.github.io/ce100-algorithms-and-programming-II/week-10/ce100-week-10-graphs/?h=bipartite#cycle-detection

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2.0.27 Bayesian Network

- https://towardsdatascience.com/introduction-to-bayesian-networks-81031eeed94e

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$$End - Of - Week - 6$$