Session 12
Fundamentals: Graphs

Lecture Summary

Students need to know both formal (math) and informal (word) definitions. Best focused review to prep for section content (avoid a "complete" intro to graphs, a potential time waster in this context).

Review Basic Graph Definitions and Terminology

1. Formal definition and related terminology, vertex adjacency
2. Properties of edges: (un)directed, edge count, sparse/dense and complete graphs
3. More definitions: weighted graphs, paths, cycles, loops
4. Main properties of graphs: connectivity, acyclic graphs
5. Implementation strategies (focus impact on performance)

Basic Graph Traversal Algorithms

Intro Pen-paper procedure (to develop systemization)

Session Exercise

Reading List

📖 1.4 (Graphs), 3.5

Keywords

Acyclic [graph], adjacent [vertices], complete [graph], connected [graph], [graph] cycle, [vertex] degree, dense [graph], digraph, edge (both directed and undirected), [graph] loop, [graph] (simple) path, sparse [graph], vertex, [edge] weight, weighted [graph]