

Types of Graph (1/2)

Complete Graph

A graph in which every pair of distinct nodes is connected by an edge

Forest

A collection of trees or disjoint tree-like structures within a graph

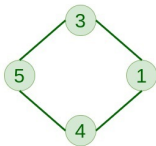
Tree

A special case of an acyclic graph in which there is a single root node, and every other node is connected by exactly one edge.

Types of Graph (2/2)

Undirected Graph

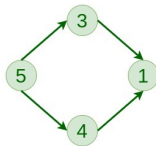
A graph in which edges do not have any direction.



Undirected Graph

Directed Graph

A graph in which edge has direction.



Directed Graph



Title

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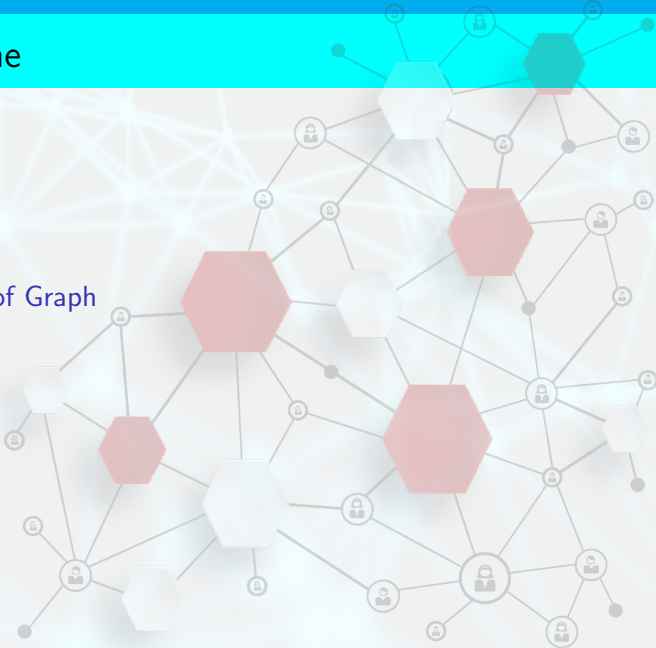
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Outline

① Types of Graph

② Intro



Introduction to Graphs (1/2)

- A Graph is a non-linear data structure consisting of vertices and edges.
- The **Vertices** are sometimes also referred to as nodes and the **Edges** are lines or arcs that connect any two nodes in the graph.

More formally

A Graph is composed of a set of vertices V and a set of edges E .

The graph is denoted by $G(V,E)$.

Introduction to Graphs (2/2)

- Graph data structures are a powerful tool for representing and analyzing complex relationships between objects or entities.
- They are particularly useful in fields such as social network analysis, recommendation systems, and computer networks.
- In the field of sports data science, graph data structures can be used to analyze and understand the dynamics of team performance and player interactions on the field.