

# 8 Lecture - CS502

## Important Subjective

1. **What is a vertex in a graph?**

A vertex, also known as a node, is a fundamental unit of a graph that represents an entity or object.

**What is an edge in a graph?**

An edge, also known as an arc, is a connection between two vertices that represents a relationship between them.

**What is a directed graph?**

A directed graph is a graph where the edges have a direction or orientation.

**What is an undirected graph?**

An undirected graph is a graph where the edges have no direction or orientation.

**What is a weighted graph?**

A weighted graph is a graph where the edges have a numerical value assigned to them.

**What is a connected graph?**

A connected graph is a graph where there is a path between any two vertices in the graph.

**What is a cycle in a graph?**

A cycle is a sequence of vertices and edges that starts and ends at the same vertex.

**What is a tree?**

A tree is a connected acyclic graph, which means that there are no cycles in the graph.

**What is a bipartite graph?**

A bipartite graph is a graph where the vertices can be divided into two sets, such that each edge connects a vertex from one set to a vertex in the other set.

**What is a path in a graph?**

A path is a sequence of vertices and edges that connects two vertices in a graph.