Trees are graphs without cycles

**Undirectional Graphs**

**Directed acyclic graphs (DAGs)**

**Biparate Graphs** – A biparate graph is one whose vertices can be split into two independent groups U & V such that every edge connects between U &V.

Representation of graphs – Adjacency Matrix/ Adjacency List + edge list

**Common Graph Theory Problems**

1. Shortest Path Problem – Algo – BFS (unweighted graphs) , Djikstra, BellmanFord, A\* and many more
2. Connectivity Problem - Use union find DS, any search algorithm eg. DFS
3. Negative Cycles – Bellman Ford, Flyod Warshall
4. Strongly Connected Components – Tarjan’s & Kosaraju’s Algo