1. What are the components of a graph?

A graph has vertices or nodes that are connected via edges that might or might not be weighted

1. Give a real-life example of a graph that is directed.

Priority based tasks, or dependency or prerequisite graph

1. Give a real-life example of a graph that is undirected.

Facebook and social Network

1. What does it mean when a graph is called “connected”?

For a graph to be labelled as a connected graph, there must be at least a single path between every pair of the graph's vertices. In other words, we can say that if we start from one vertex, we should be able to move to any of the vertices that are present in that particular graph, which means there exists at least one path between all the vertices of the graph

1. What does it mean when a graph is called “fully connected”?

A graph is said to be fully connected if there exists an edge between every pair of vertices of the graph

A graph is said to be a complete graph if, for all the vertices of the graph, there exists an edge between every pair of the vertices. In other words, we can say that all the vertices are connected to the rest of all the vertices of the graph

1. Is a tree connected graph?

A tree is a connected, acyclic graph, that is, a connected graph that has no cycles. A forest is an acyclic graph. Every component of a forest is a tree.

1. A tree is a specific type of graph. What makes a tree distinguished from graph?

A tree is an acyclic graph which is undirected. If there is n nodes, there will be (n-1) edges

1. What is rooted tree?

A tree where a special node is given the label “root”

9)  What is a leaf?

Leaf is the child node or a vertex with no further children

10)  How many edges are there in a tree having *n* nodes?

N(N-1)/2

11)  How many simple path(s) is(are) there between a pair of tree nodes?

1

12)  What is a “weighted” graph?

A weighted graph is where the edges have a certain weight or cost attached to them