1. [13] Define these terms as they relate to graph and graph algorithms: Use mathematical terms where appropriate.

Graph a structure containing objects that give a visual Representation of how they interact with other objs

Vertice just a node in a graph. A point.

Edge The line that connects two vertices together

Undirected Graph A graph that has each edge bi directional/ every vertex has an even degree.

Directed Graph A graph that has each edge pointing a direction to flow. every vertex has an equal in and out degree

Path is either a infinite or defined sequence of edges which connect a sequence of vertices. Most of the time unique vertices.

Loop path along edges that start and end at the same vertex

Cycle are a path that starts and ends at the same vertex with no repeating edges

Acyclic A graph type that has no graph cycles

Connected when ever vertice has a path connecting them

Sparse when the number of edges is far less than the possible edges

Weight when each edge is given a value. That value increases the "weight" of that edge comapared to the others.