

# Download First Look At Graph Theory

In mathematics, graph theory is the study of graphs, which are mathematical structures used to model pairwise relations between objects. A graph in this context is made up of vertices (also called nodes or points) which are connected by edges (also called links or lines). A distinction is made between undirected graphs, where edges link two vertices symmetrically, and directed graphs, where ... Symbols Square brackets [ ]  $G[S]$  is the induced subgraph of a graph  $G$  for vertex subset  $S$ . Prime symbol ' The prime symbol is often used to modify notation for graph invariants so that it applies to the line graph instead of the given graph. For instance,  $\alpha(G)$  is the independence number of a graph;  $\nu(G)$  is the matching number of the graph, which equals the independence number of its line ... Breadth First Traversal (or Search) for a graph is similar to Breadth First Traversal of a tree (See method 2 of this post). The only catch here is, unlike trees, graphs may contain cycles, so we may come to the same node again. To avoid processing a node more than once, we use a boolean visited array. Depth First Traversal (or Search) for a graph is similar to Depth First Traversal of a tree. The only catch here is, unlike trees, graphs may contain cycles, so we may come to the same node again. To avoid processing a node more than once, we use a boolean visited array. - First Look At Graph Theory