Day - 1

Introduction to algorithms

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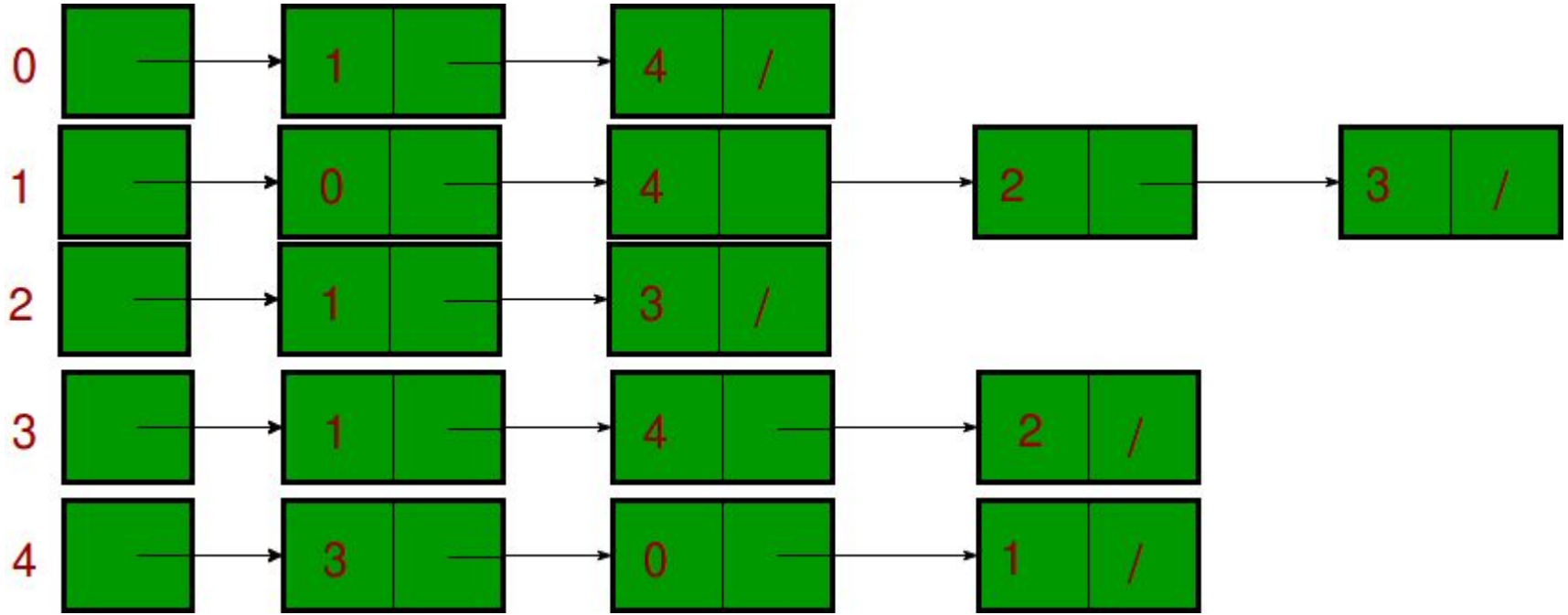
Elementary operation

In elementary operation we are going to discuss addition of a vertex to a graph using adjacency list.

Graph is a data structure that consists of following two components:

1. A finite set of vertices also called as nodes.

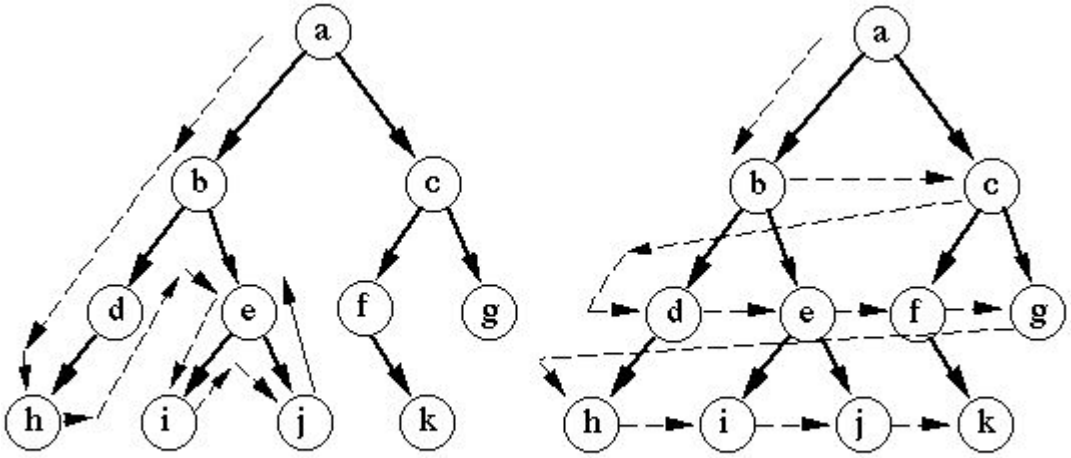
2. A finite set of ordered pair of the form (u, v) called as edge. The pair is ordered because (u, v) is not same as (v, u) in case of a directed graph(di-graph). The pair of the form (u, v) indicates that there is an edge from vertex u to vertex v. The edges may contain weight/value/cost.



Courtesy - Geeksforgeeks

Traversals

Here shown figure depicts two types of traversals -



Breadth first traversals

breadth-first traverse traverses legal paths “in parallel,” where at each step, all legal objects are computed before moving onto the next step of the path.

Depth first traversal

Depth-first traverse traverses down an entire path as specified by a path expression before turning to the next legal path.