

- Graph
- Vertex (compare node)
- Edge (compare link)
- Incident
- Adjacent
- Degree
- Complete
- Dense

- Sparse
- Directed graph
- Undirected graph
- Parallel edge
- Self loop
- Simple graph
- Weighted graph

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Adjectives

Trivial Having only one vertex and no edges.

- Simple Having no repeated vertices (except, possibly, the initial and terminal).
- Closed Having the same vertex as initial and terminal.

Nouns

- Walk An alternating sequence of vertices and edges, each edge coming between its end points.
- Path A walk with no repeated *edge* (repeated vertices are ok).
- Circuit A closed path (no repeated edges, initial and terminal the same).
 - Cycle A simple circuit (no repeated edges or vertices, except the initial and terminal, which are the same).





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| | Adjacency matrix | Adjacency list |
|----------------|------------------|----------------------------------|
| Space | $\Theta(V^2)$ | $\Theta(V+E)$ |
| adjacent(u, v) | $\Theta(1)$ | $\Theta(deg(u))$ (expected case) |
| adjacents(u) | $\Theta(V)$ | $\Theta(deg(u))$ |

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