Graph Basics:

**Reading**

Section 3.1 in [DPV]

**If you find this lesson difficult to follow**

[Section on graph representation](https://www.khanacademy.org/computing/computer-science/algorithms/graph-representation/a/describing-graphs) at Algorithms class by Tom Cormen and Devin Balkcom at Khan Academy

**References**

[DPV] Sanjoy Dasgupta, Christos Papadimitriou, and Umesh Vazirani. Algorithms (1st Edition). McGraw-Hill Higher Education. 2008.

Exploring Undirected Graph:

## Reading

Section 3.2 in [DPV]

## Visualizations

[Depth-first search](http://www.cs.usfca.edu/~galles/visualization/DFS.html) by David Galles

## References

[DPV] Sanjoy Dasgupta, Christos Papadimitriou, and Umesh Vazirani. Algorithms (1st Edition). McGraw-Hill Higher Education. 2008.

Directed Graph:

## Reading

Section 3.3 and 3.4 in [DPV]

## Visualizations

* [Topological sort using depth first search](http://www.cs.usfca.edu/~galles/visualization/TopoSortDFS.html) by David Galles
* [Topological sort using indegree array](http://www.cs.usfca.edu/~galles/visualization/TopoSortIndegree.html) by David Galles
* [Strongly connected components](http://www.cs.usfca.edu/~galles/visualization/ConnectedComponent.html) by David Galles

## References

[DPV] Sanjoy Dasgupta, Christos Papadimitriou, and Umesh Vazirani. Algorithms (1st Edition). McGraw-Hill Higher Education. 2008.