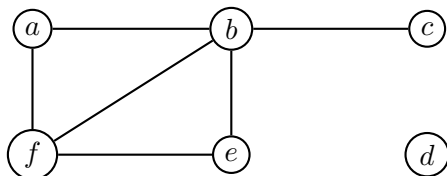


CS 228, Graph Terminology

Name:

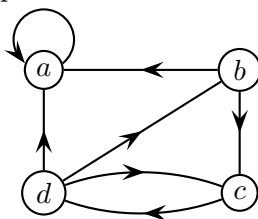
Some questions are from **Discrete Mathematics and It's Applications 7e** by Kenneth Rosen.

- Consider the following undirected graph:



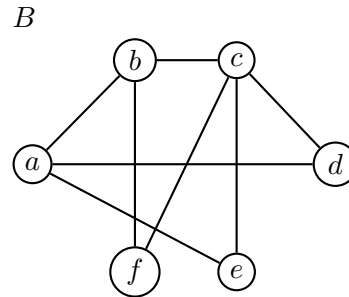
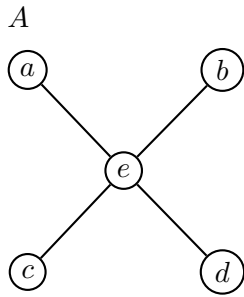
- How many vertices in this graph?
- How many edges?
- Find the degree of each vertex.
- Find $N(b)$ (the neighborhood of b).
- Confirm that $2m = \sum_{v \in V} \deg(v)$, where m is the number of edges.

- Consider the following directed graph:



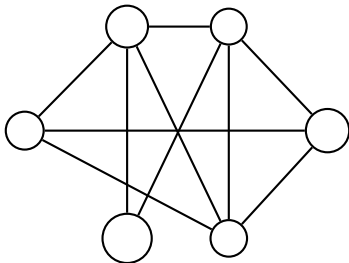
- How many vertices in this graph?
- How many edges?
- What is the the in-degree and out-degree of each vertex?
- Confirm that $\sum_{v \in V} \deg^-(v) = \sum_{v \in V} \deg^+(v) = |E|$

- Consider the graphs A and B :

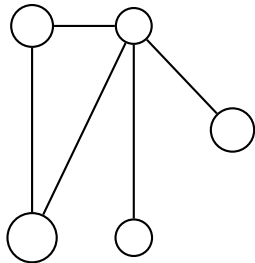


- Determine if either or both of these graphs are bipartite.

- Draw the graph $A \cup B$.



- Draw the graph $B - a$.



- Draw the graph $A - (e, b)$.

