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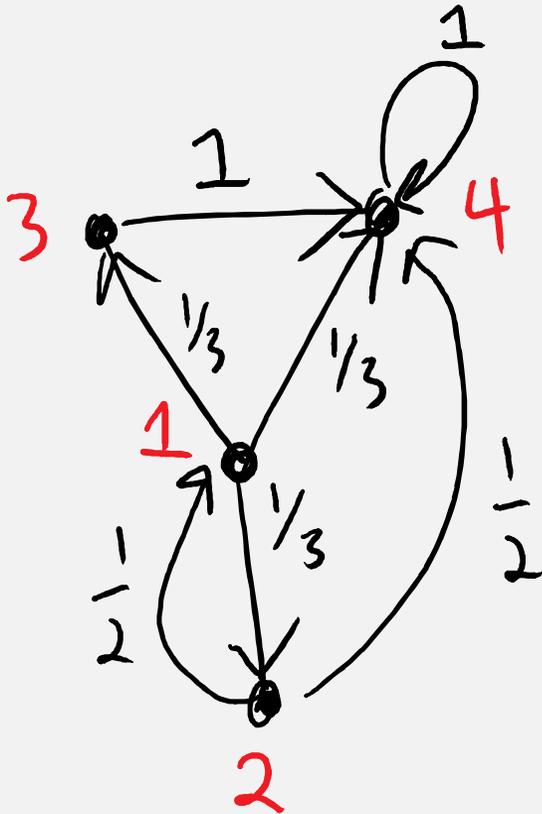
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Goals

- Describe graphs using adjacency matrices and lists
- Write pseudocode using adjacency matrices and lists

Graph Reps



Create a representation of the graph at left using both an adjacency matrix and an adjacency list representation.

In each representation, how do you represent:

- Directed edges
- Self-loops (edge from vertex to itself)
- Weighted edges

Graph Reps

Suppose an undirected graph $G = (V, E)$ has n vertices and m total edges. Write two pseudocode programs to learn degree of vertex v (one with adjacency matrix, one with adjacency list). Which representation gives a faster algorithm?

Input: v, A for graph $G = (V, E)$ (either adjacency matrix, or adjacency list of the graph)

Output: Degree of v