

CSCI 241

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Graphs: Representation

Goals

Know little more graph terminology:

- (strongly/weakly) connected
- connected component

Know how a graph can be represented on computers using an:

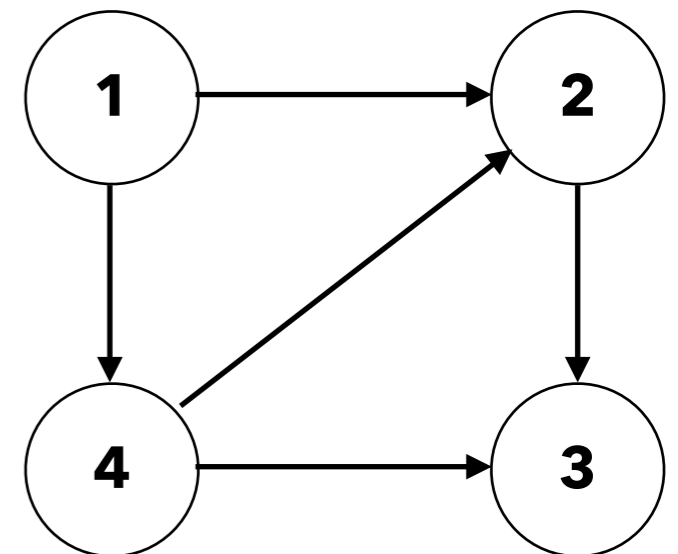
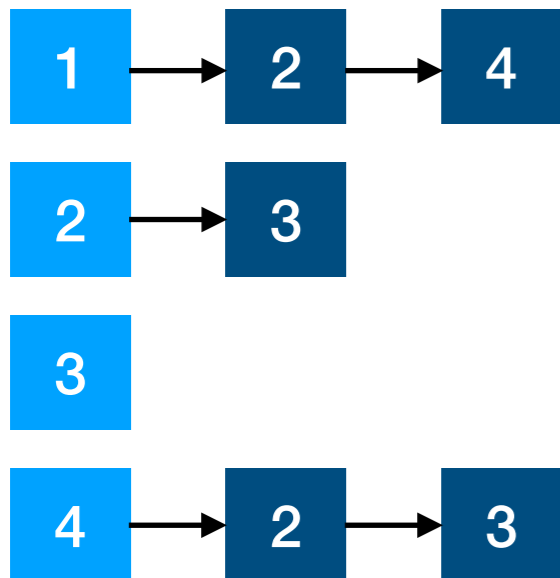
- Adjacency list
- Adjacency matrix

TODO: Connectedness

Representing Graphs: Adjacency List

```
public class GraphNode {  
    // fields storing information  
    // about this node  
  
    List<GraphNode> neighbors;  
}
```

Node: Neighbors:

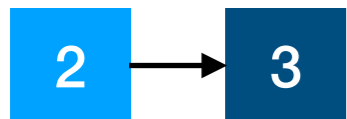


Representing Graphs: Adjacency Matrix

```
public class Graph {  
    boolean[][] adjacent; // size n x n  
}
```

Adjacency lists:

Node: Neighbors:



Adjacency Matrix:

	1	2	3	4
1	0	1	0	1
2	0	0	1	0
3	0	0	0	0
4	0	1	1	0

