

## Breadth-first search (BFS)

- start at  $v$
- connect  $v$  all its neighbors
- connect each of them to all their neighbors (working in order and rejecting choices that would create a cycle)
- iterate until all vertices reached
- Subtle issue: when we have a choice of which vertex to consider the neighbors of next, take the vertex added to the tree earliest.

What order were the vertices added?

Try it out!  
(start at root vtx  $v=1$ )

