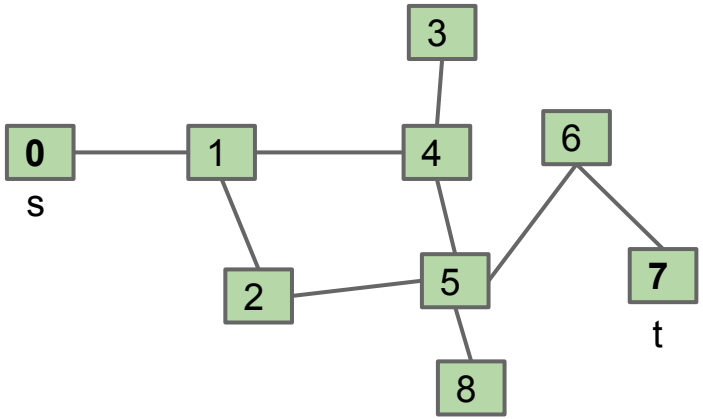
s-t Connectivity

connected(s, t):

- Mark s.
- Does s == t? If so, return true.
- Otherwise, if connected(v, t) for any unmarked neighbor v of s, return true.
- Return false.



s-t Connectivity

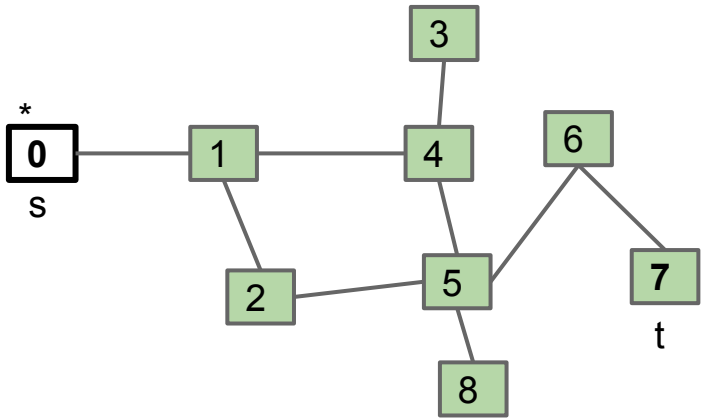
connected(s, t):

- Mark s.
- Does s == t? If so, return true.
- Otherwise, if connected(v, t) for any unmarked neighbor v of s, return true.
- Return false.

mark(0).
Is 0 == 7? No.

isMarked(1)? No.

- Check connected(1, 7).



s-t Connectivity

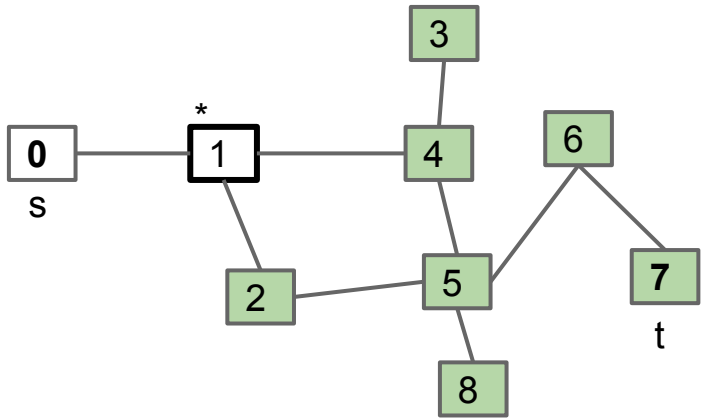
connected(s, t):

- Mark s.
- Does s == t? If so, return true.
- Otherwise, if connected(v, t) for any unmarked neighbor v of s, return true.
- Return false.

mark(1).
Is 1 == 7? No.

isMarked(0)? Yes.
isMarked(2)?

- Check connected(2, 7).



s-t Connectivity

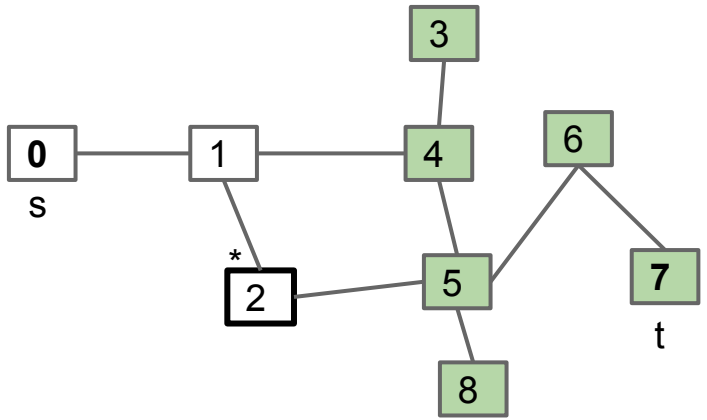
connected(s, t):

- Mark s.
- Does s == t? If so, return true.
- Otherwise, if connected(v, t) for any unmarked neighbor v of s, return true.
- Return false.

mark(2).
Is 2 == 7? No.

isMarked(1)? Yes.
isMarked(5)?

- Check connected(5, 7).



s-t Connectivity

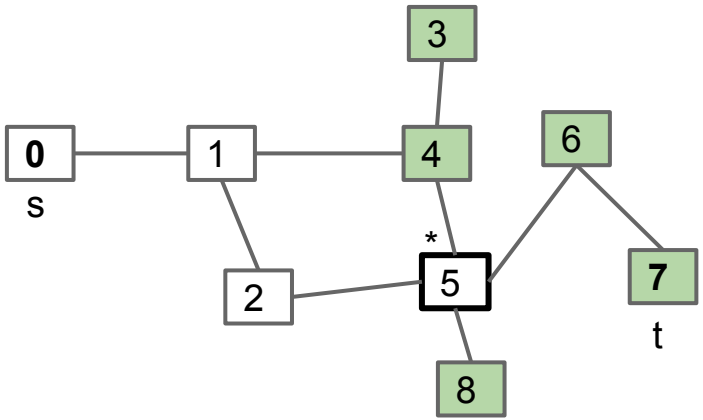
connected(s, t):

- Mark s.
- Does s == t? If so, return true.
- Otherwise, if connected(v, t) for any unmarked neighbor v of s, return true.
- Return false.

mark(5).
Is 5 == 7? No.

isMarked(2)? Yes.
isMarked(4)?

- Check connected(4, 7).



s-t Connectivity

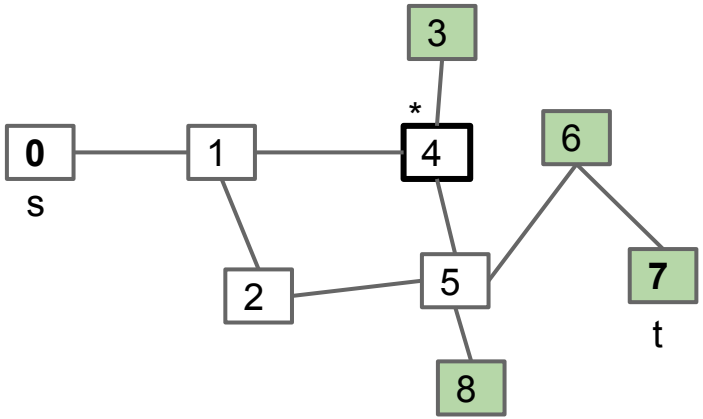
connected(s, t):

- Mark s.
- Does s == t? If so, return true.
- Otherwise, if connected(v, t) for any unmarked neighbor v of s, return true.
- Return false.

mark(4).
Is 4 == 7? No.

isMarked(1)? Yes.

isMarked(3)? No.
- Check connected(3, 7).



s-t Connectivity

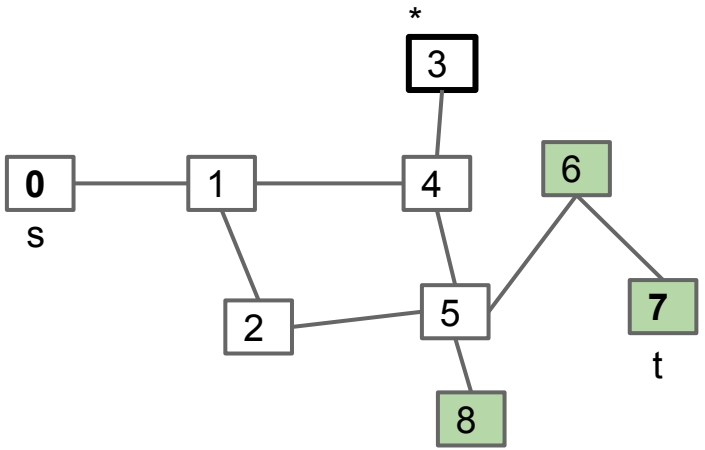
connected(s, t):

- Mark s.
- Does s == t? If so, return true.
- Otherwise, if connected(v, t) for any unmarked neighbor v of s, return true.
- Return false.

mark(3).
Is 3 == 7? No.

isMarked(4)? Yes.

No more neighbors! Return false.



s-t Connectivity

connected(s, t):

- Mark s.
- Does s == t? If so, return true.
- Otherwise, if connected(v, t) for any unmarked neighbor v of s, return true.
- Return false.

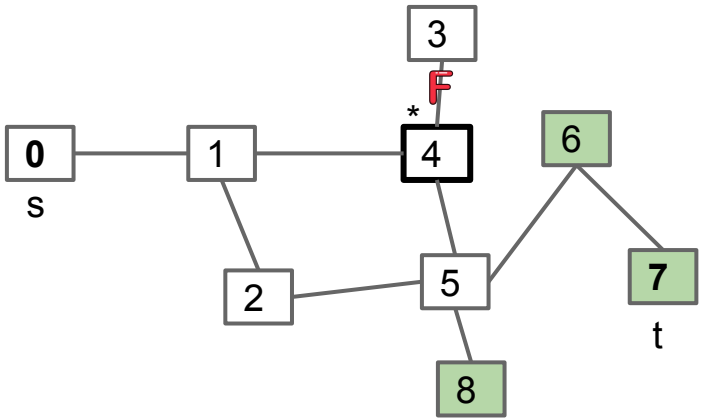
mark(4).
Is 4 == 7? No.

isMarked(1)? Yes.

isMarked(3)? No.

- Check connected(3, 7). Answer was false.

isMarked(5)? Yes.
No more neighbors, so return false.



s-t Connectivity

connected(s, t):

- Mark s.
- Does s == t? If so, return true.
- Otherwise, if connected(v, t) for any unmarked neighbor v of s, return true.
- Return false.

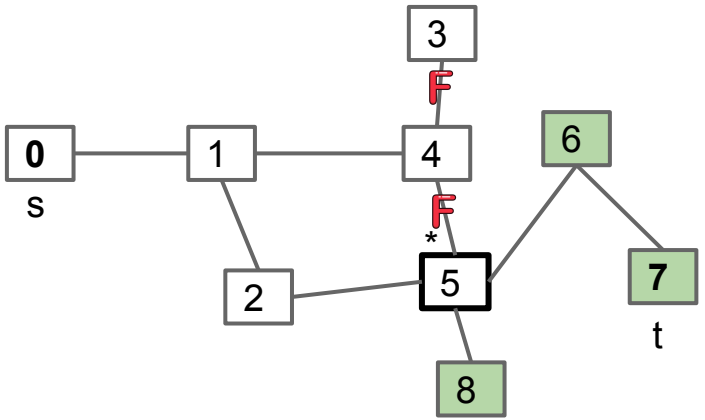
mark(5).
Is 5 == 7? No.

isMarked(2)? Yes.
isMarked(4)?

- Check connected(4, 7). Answer was false, so keep checking neighbors.

isMarked(6)?

- Check connected(6, 7).



s-t Connectivity

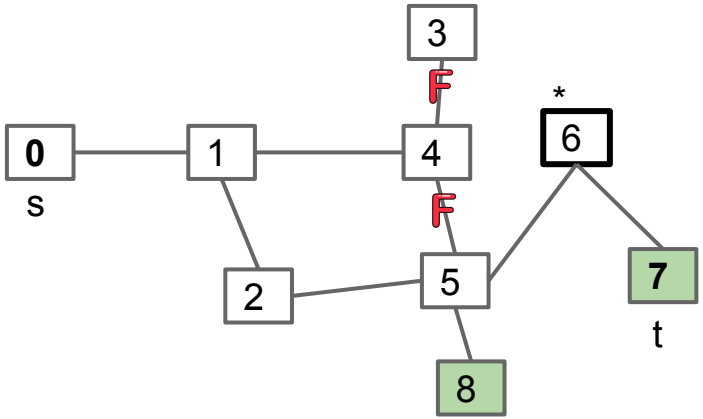
connected(s, t):

- Mark s.
- Does s == t? If so, return true.
- Otherwise, if connected(v, t) for any unmarked neighbor v of s, return true.
- Return false.

mark(6).
Is 6 == 7? No.

isMarked(5)? Yes.
isMarked(7)? No.

- Check connected(7, 7).

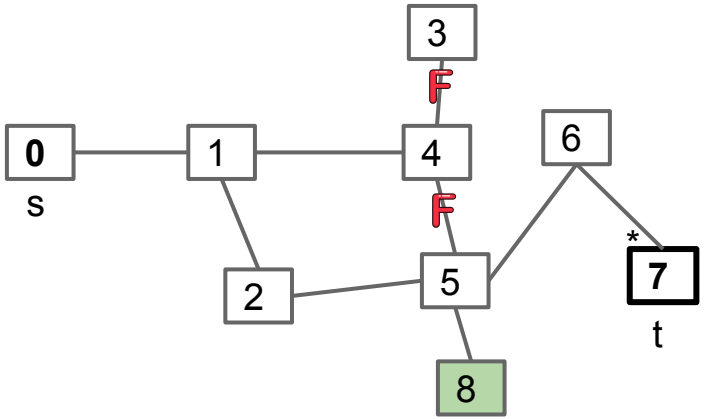


s-t Connectivity

connected(s, t):

- Mark s.
- Does s == t? If so, return true.
- Otherwise, if connected(v, t) for any unmarked neighbor v of s, return true.
- Return false.

mark(7).
Is 7 == 7? Yes. Return true!



s-t Connectivity

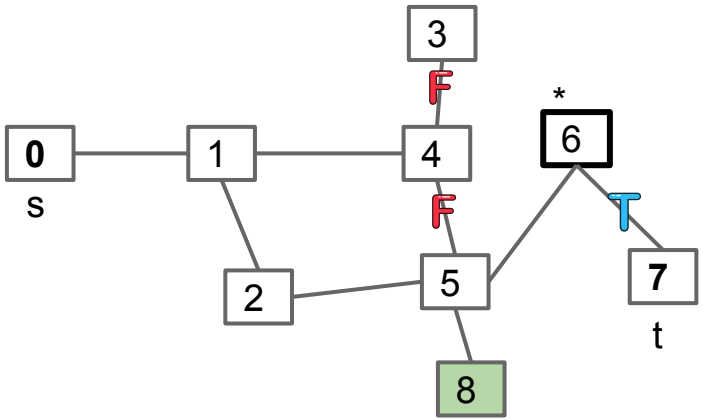
connected(s, t):

- Mark s.
- Does s == t? If so, return true.
- Otherwise, if connected(v, t) for any unmarked neighbor v of s, return true.
- Return false.

mark(6).
Is 6 == 7? No.

isMarked(5)? Yes.
isMarked(7)? No.

- Check connected(7, 7). Answer was true, so return true.



s-t Connectivity

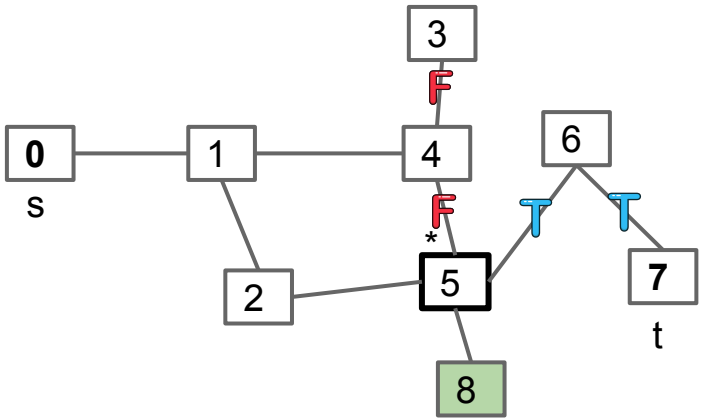
connected(s, t):

- Mark s.
- Does s == t? If so, return true.
- Otherwise, if connected(v, t) for any unmarked neighbor v of s, return true.
- Return false.

mark(5).
Is 5 == 7? No.

isMarked(2)? Yes.
isMarked(4)?
- Check connected(4, 7). Answer was false, so keep checking neighbors.

isMarked(5)? Yes.
isMarked(6)?
- Check connected(6, 7): Return true!



s-t Connectivity

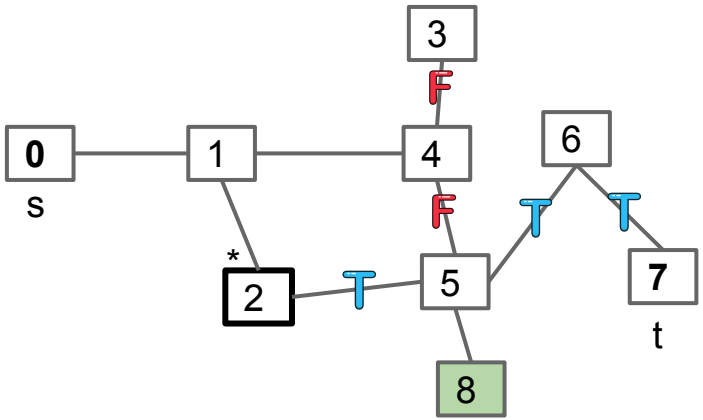
connected(s, t):

- Mark s.
- Does s == t? If so, return true.
- Otherwise, if connected(v, t) for any unmarked neighbor v of s, return true.
- Return false.

mark(2).
Is 2 == 7? No.

isMarked(1)? Yes.
isMarked(5)?

- Check connected(5, 7). Answer was true, so return true!



s-t Connectivity

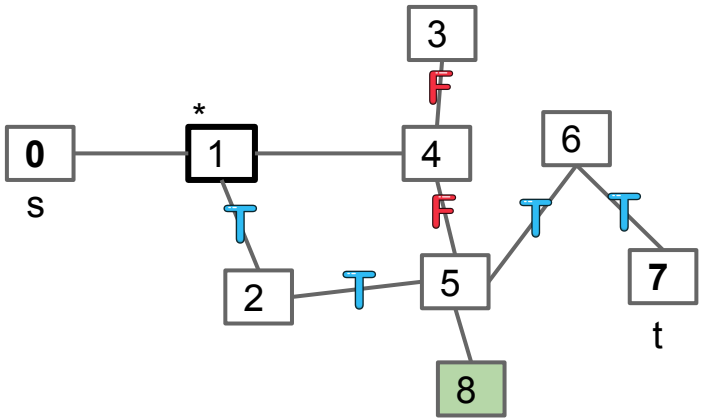
connected(s, t):

- Mark s.
- Does s == t? If so, return true.
- Otherwise, if connected(v, t) for any unmarked neighbor v of s, return true.
- Return false.

mark(1).
Is 1 == 7? No.

isMarked(0)? Yes.
isMarked(2)?

- Check connected(2, 7). Answer was true, so return true!



s-t Connectivity

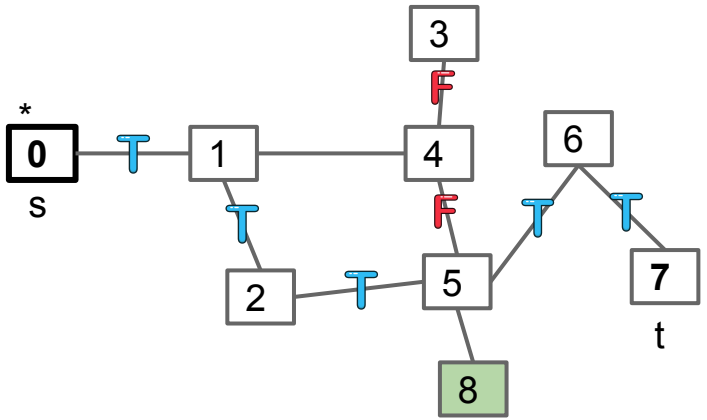
connected(s, t):

- Mark s.
- Does s == t? If so, return true.
- Otherwise, if connected(v, t) for any unmarked neighbor v of s, return true.
- Return false.

mark(0).
Is 0 == 7? No.

isMarked(1)? No.

- Check connected(1, 7). Answer was true, so return true!



s-t Connectivity

connected(s, t): T

- Mark s.
- Does s == t? If so, return true.
- Otherwise, if connected(v, t) for any unmarked neighbor v of s, return true.
- Return false.

mark(0).
Is 0 == 7? No.

isMarked(1)? No.

- Check connected(1, 7). Answer was true, so return true!