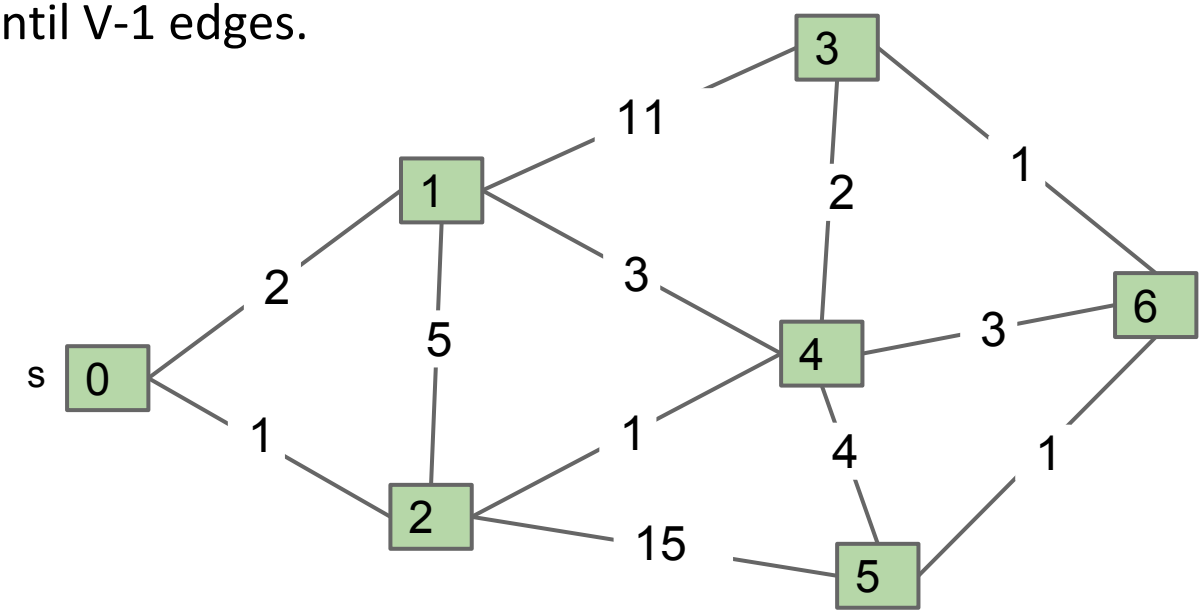
Prim's Demo (Conceptual)

Start from some arbitrary start node.

- Add shortest edge (mark black) that has one node inside the MST under construction. Repeat until V-1 edges.

#	edgeTo
0	-
1	-
2	-
3	-
4	-
5	-
6	-

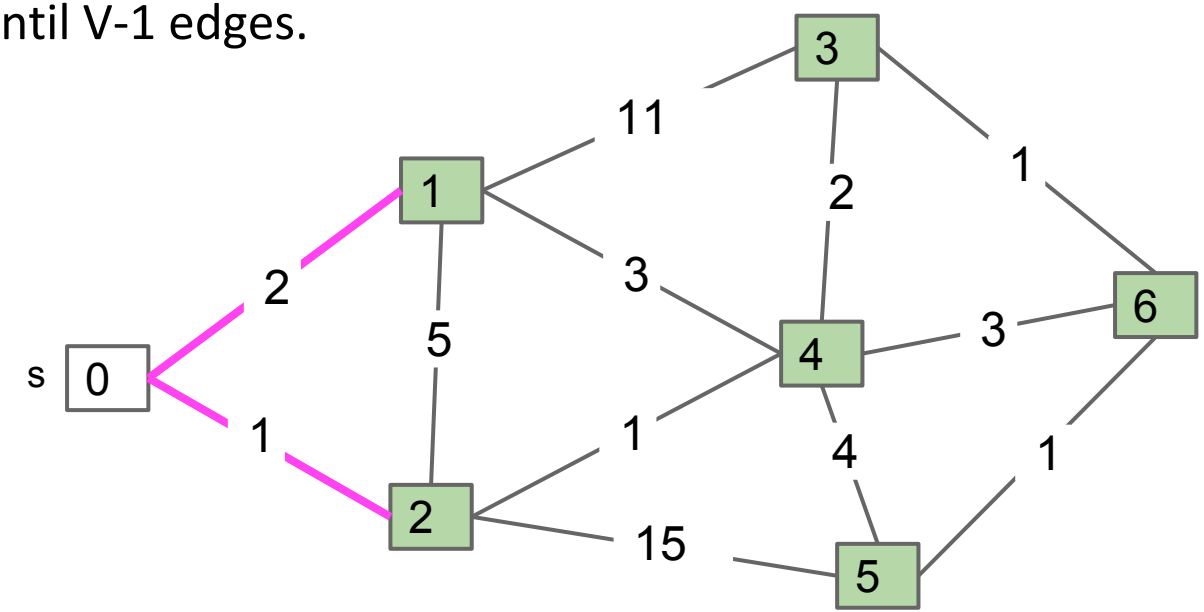


Prim's Demo (Conceptual)

Start from some arbitrary start node.

- Add shortest edge (mark black) that has one node inside the MST under construction. Repeat until V-1 edges.

#	edgeTo
0	-
1	-
2	-
3	-
4	-
5	-
6	-

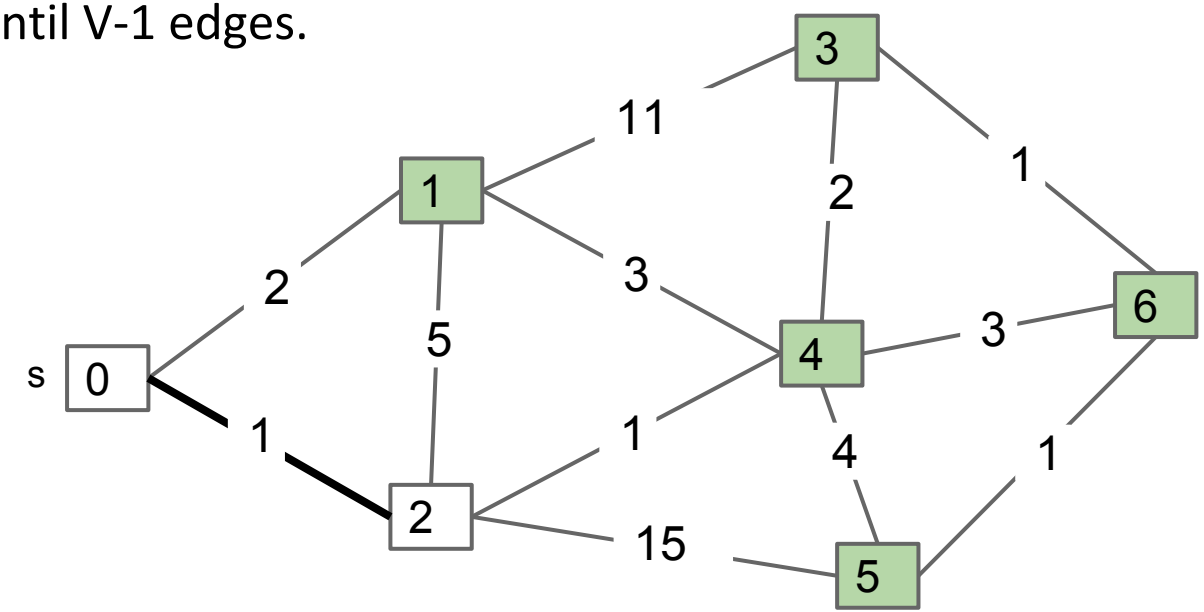


Prim's Demo (Conceptual)

Start from some arbitrary start node.

- Add shortest edge (mark black) that has one node inside the MST under construction. Repeat until V-1 edges.

#	edgeTo
0	-
1	-
2	0
3	-
4	-
5	-
6	-

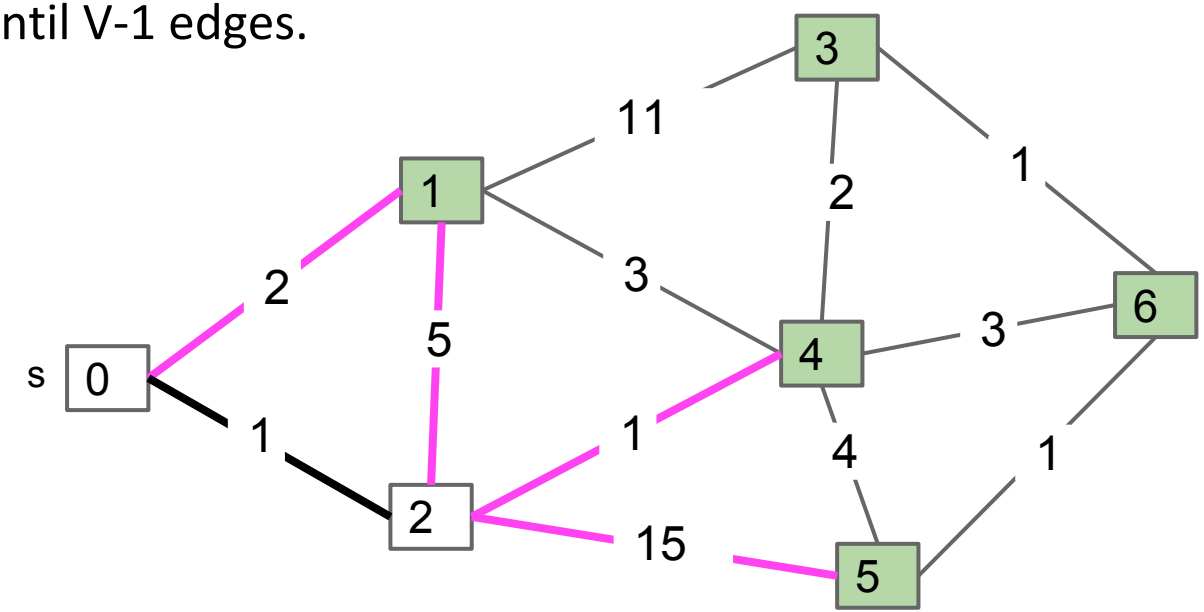


Prim's Demo (Conceptual)

Start from some arbitrary start node.

- Add shortest edge (mark black) that has one node inside the MST under construction. Repeat until V-1 edges.

#	edgeTo
0	-
1	-
2	0
3	-
4	-
5	-
6	-

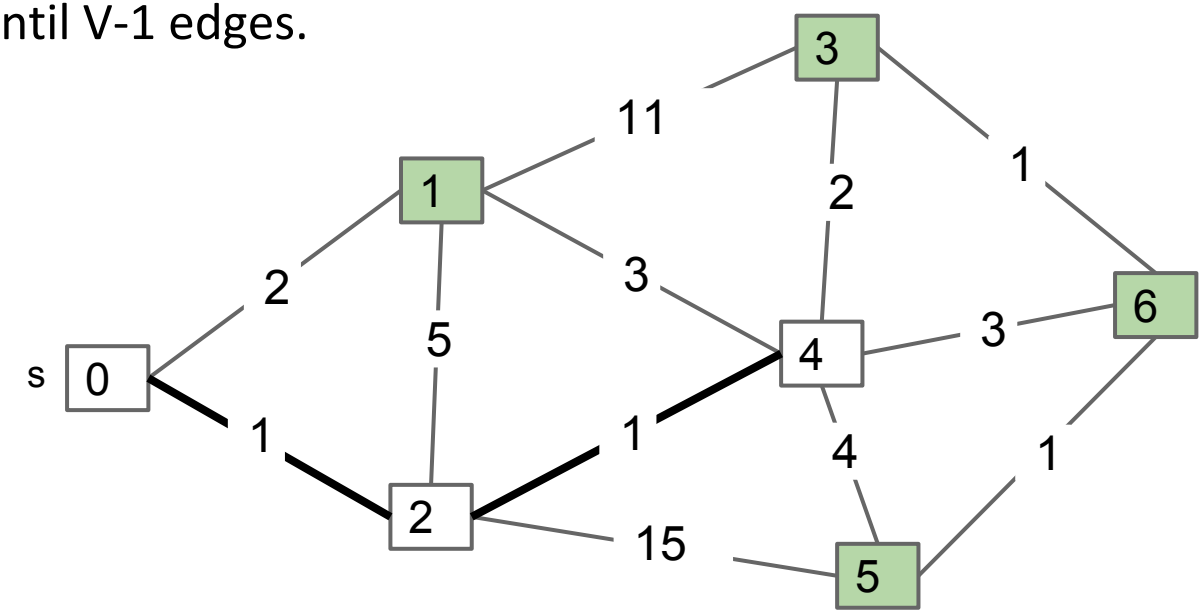


Prim's Demo (Conceptual)

Start from some arbitrary start node.

- Add shortest edge (mark black) that has one node inside the MST under construction. Repeat until V-1 edges.

#	edgeTo
0	-
1	-
2	0
3	-
4	2
5	-
6	-

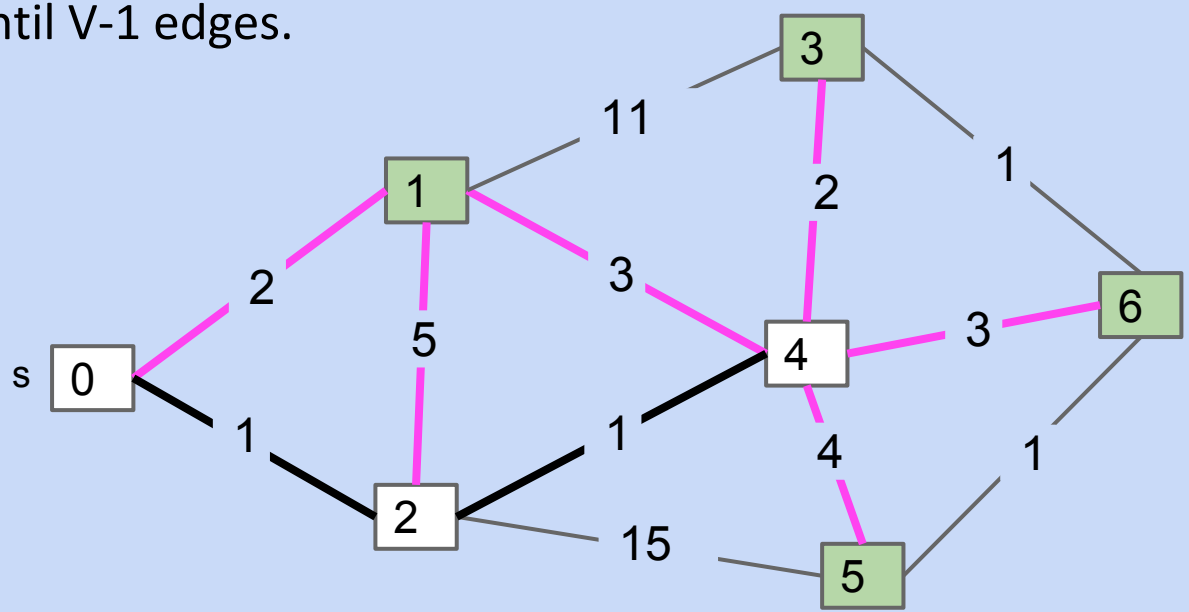


Prim's Demo (Conceptual)

Start from some arbitrary start node.

- Add shortest edge (mark black) that has one node inside the MST under construction. Repeat until V-1 edges.

#	edgeTo
0	-
1	-
2	0
3	-
4	2
5	-
6	-



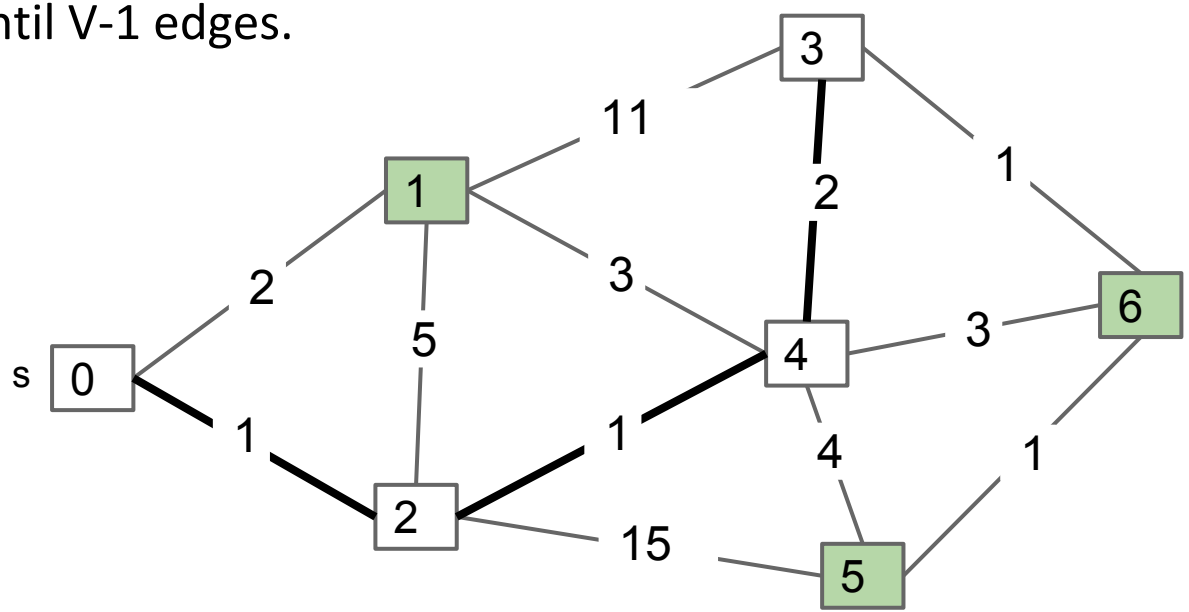
Which edge is added next?

Prim's Demo (Conceptual)

Start from some arbitrary start node.

- Add shortest edge (mark black) that has one node inside the MST under construction. Repeat until V-1 edges.

#	edgeTo
0	-
1	-
2	0
3	4
4	2
5	-
6	-



Which edge is added next?

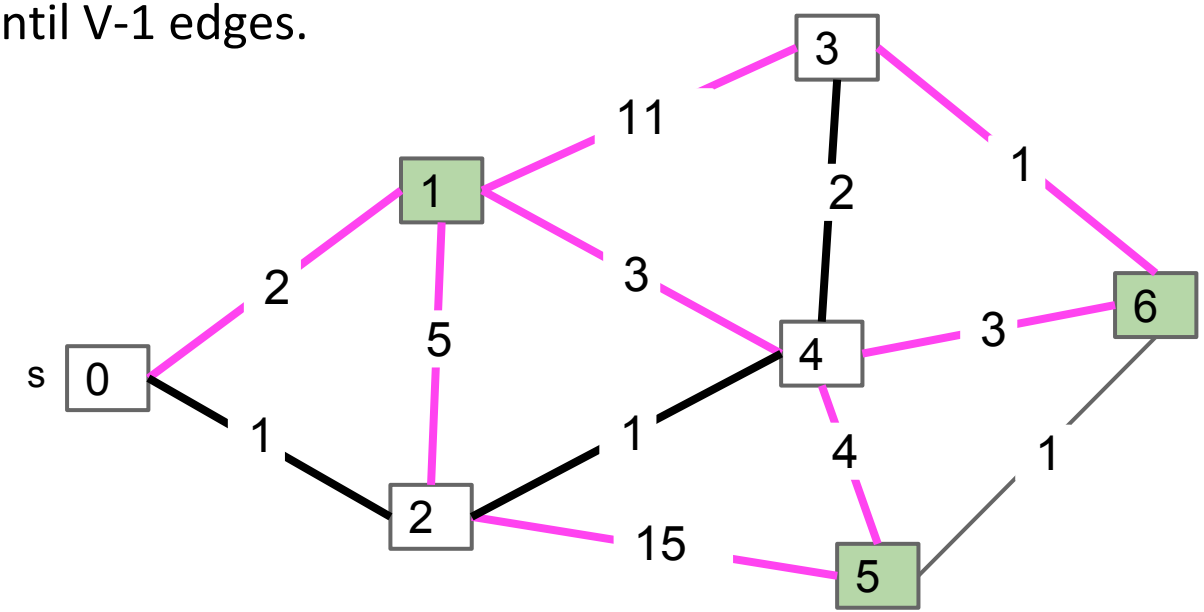
- Either 0-1 or 4-3 are guaranteed to work (see exercises for proof)!
- Note: They are not both guaranteed to be in the MST.

Prim's Demo (Conceptual)

Start from some arbitrary start node.

- Add shortest edge (mark black) that has one node inside the MST under construction. Repeat until V-1 edges.

#	edgeTo
0	-
1	-
2	0
3	4
4	2
5	-
6	-

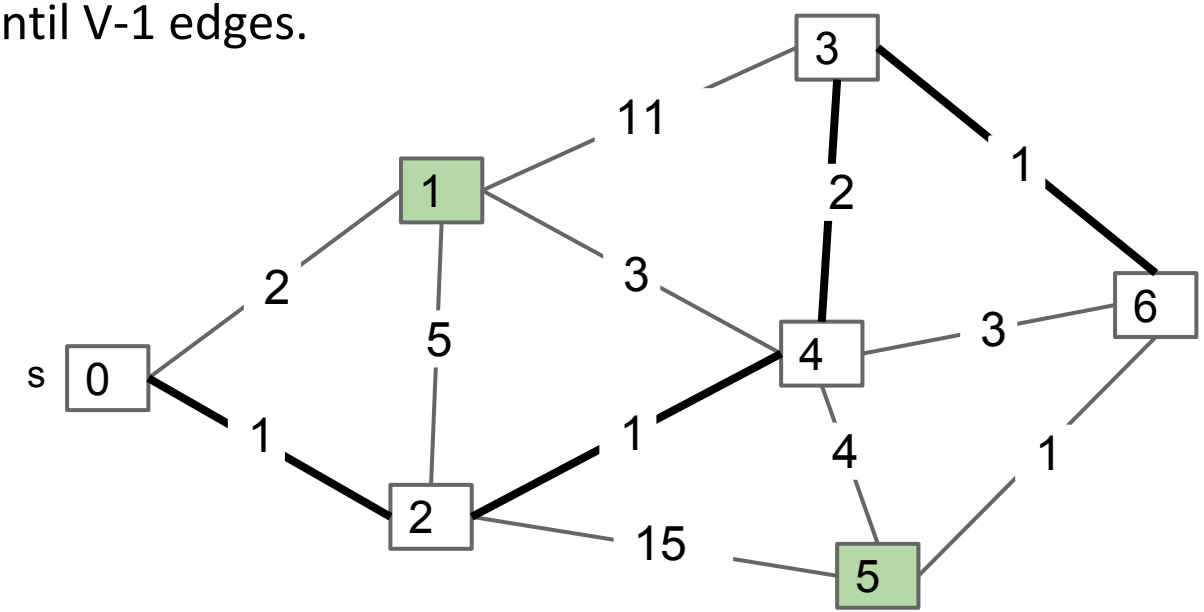


Prim's Demo (Conceptual)

Start from some arbitrary start node.

- Add shortest edge (mark black) that has one node inside the MST under construction. Repeat until V-1 edges.

#	edgeTo
0	-
1	-
2	0
3	4
4	2
5	-
6	3

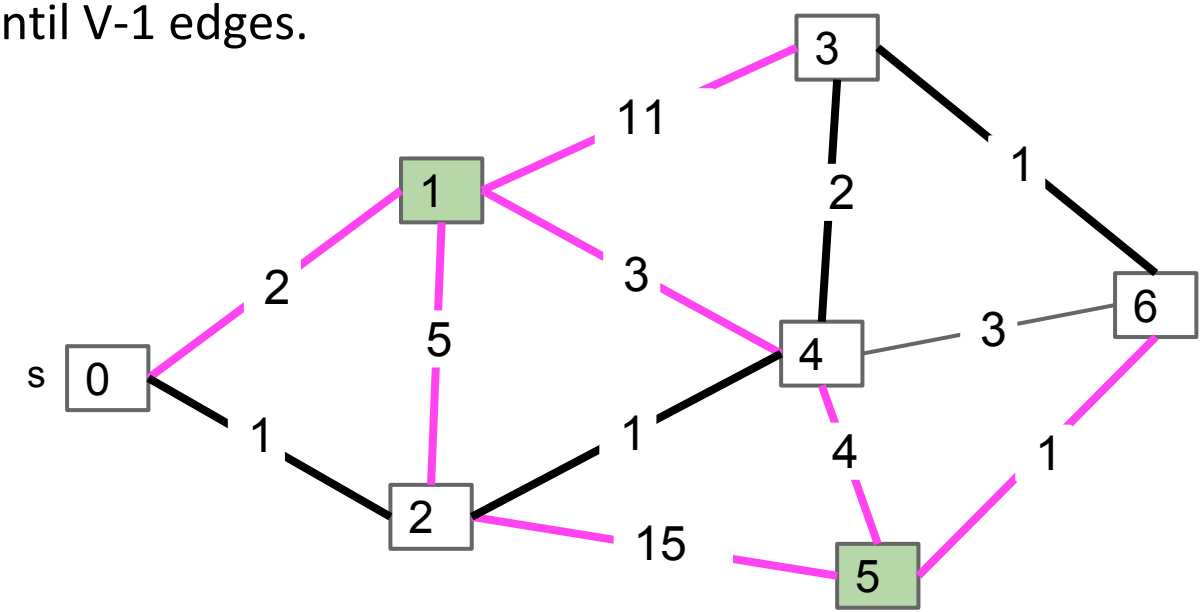


Prim's Demo (Conceptual)

Start from some arbitrary start node.

- Add shortest edge (mark black) that has one node inside the MST under construction. Repeat until V-1 edges.

#	edgeTo
0	-
1	-
2	0
3	4
4	2
5	-
6	3

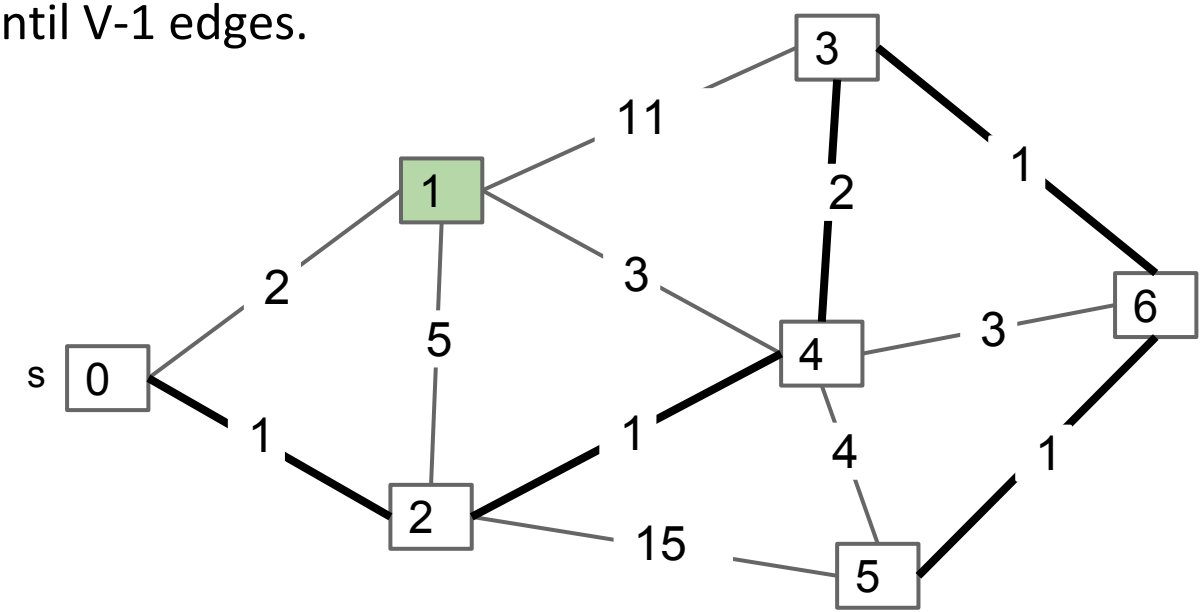


Prim's Demo (Conceptual)

Start from some arbitrary start node.

- Add shortest edge (mark black) that has one node inside the MST under construction. Repeat until V-1 edges.

#	edgeTo
0	-
1	-
2	0
3	4
4	2
5	6
6	3

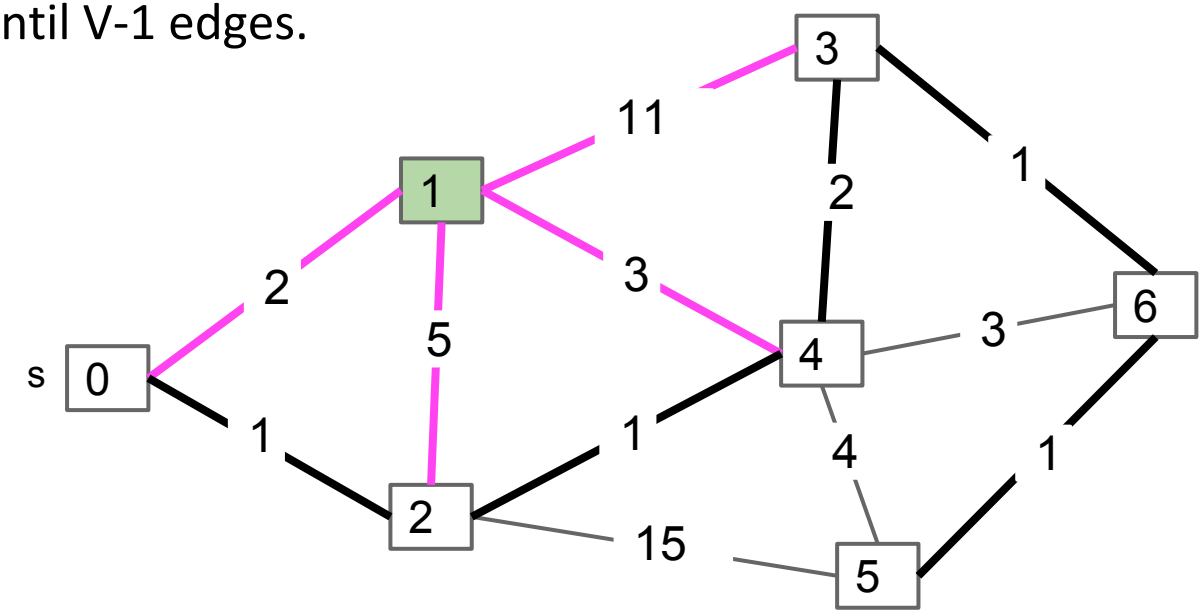


Prim's Demo (Conceptual)

Start from some arbitrary start node.

- Add shortest edge (mark black) that has one node inside the MST under construction. Repeat until V-1 edges.

#	edgeTo
0	-
1	-
2	0
3	4
4	2
5	6
6	3



Prim's Demo (Conceptual)

Start from some arbitrary start node.

- Add shortest edge (mark black) that has one node inside the MST under construction. Repeat until V-1 edges.

#	edgeTo
0	-
1	0
2	0
3	4
4	2
5	6
6	3