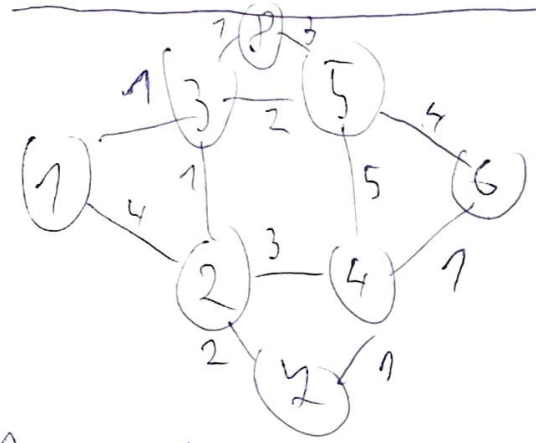
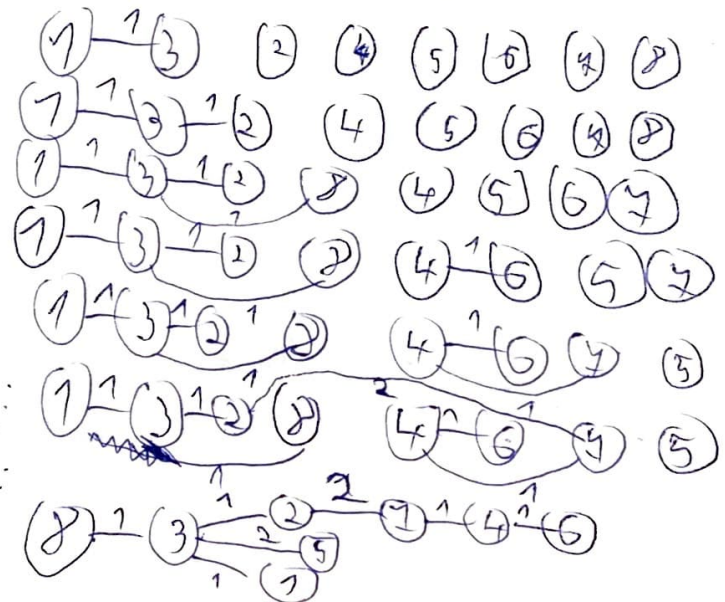
Minimum spanning tree



Kruskal's algorithm

Initialization: (1) (2) (3) (4) (5) (6) (7) (8)

~~First~~ edge (1,3) selected:
edge (2,3) selected:
edge (3,8) selected:
edge (4,6) selected:
edge (4,7) selected:
edge (2,4) selected:
edge (3,5) selected:

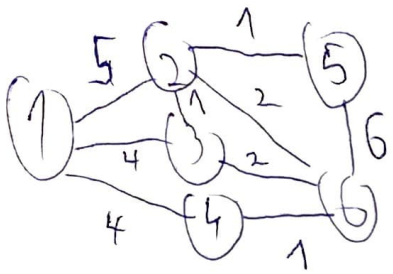


Edges sorted

(1,3):1	(5,8):3
(2,3):1	(1,2):4
(3,8):1	(5,6):4
(4,6):1	(4,5):5
(4,7):1	
(2,7):2	
(3,5):2	
(2,4):3	

The rest of the edges will not get selected, ~~since~~ because for N=8 nodes, 7 edges are required to form a tree, and we selected them. The other edges would just add cycles.

Minimum spanning tree



Edges sorted

(2,5): 1	(1,3): 4
(2,3): 1	(1,4): 4
(4,6): 1	(1,2): 5
(2,6): 2	(5,6): 6
(3,6): 2	

Kruskal's algorithm

Initialization: (1) (2) (3) (4) (5) (6)

edge (2,5) selected: (1) (3) (4) (5)–1–(2) (6)

edge (2,3) selected: (1) (4) (3)–1–(2)–1–(5) (6)

edge (4,6) selected: (1) (3)–1–(2)–1–(5) (4)–1–(6)

edge (2,6) selected: (1) (3)–1–(2)–1–(5) (6)–2–(6)

edge (3,6) not selected (cycle 2 – 3 – 6 ~~3 – 6 – 2~~)

edge (1,3) selected: (1)–4–(3)–1–(2)–1–(5) (6)–1–(4)

The rest of the edges will not be selected, ~~since~~ because we already have 6 − 1 = 5 edges, so they would add cycles.

There are 2 minimum spanning trees: