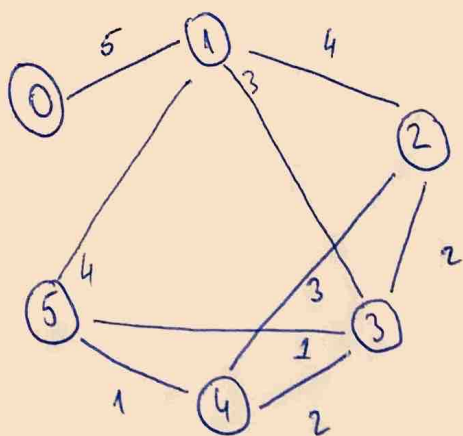
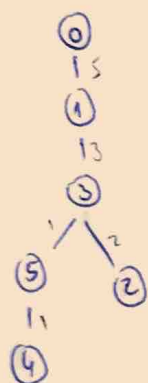


# Minimum spanning tree - Prim's algorithm



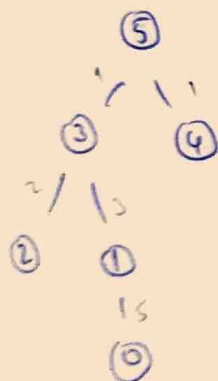
0	1	5
1	2	4
1	3	3
1	5	4
2	3	2
2	4	3
3	4	2
3	5	1
4	5	1

- Minimum spanning tree with starting vertex = 0



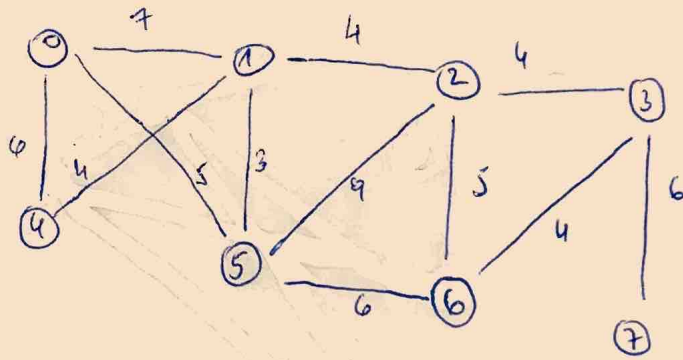
=> total cost = 12

- Minimum spanning tree with starting vertex = 5



=> total cost = 12

# Manual execution

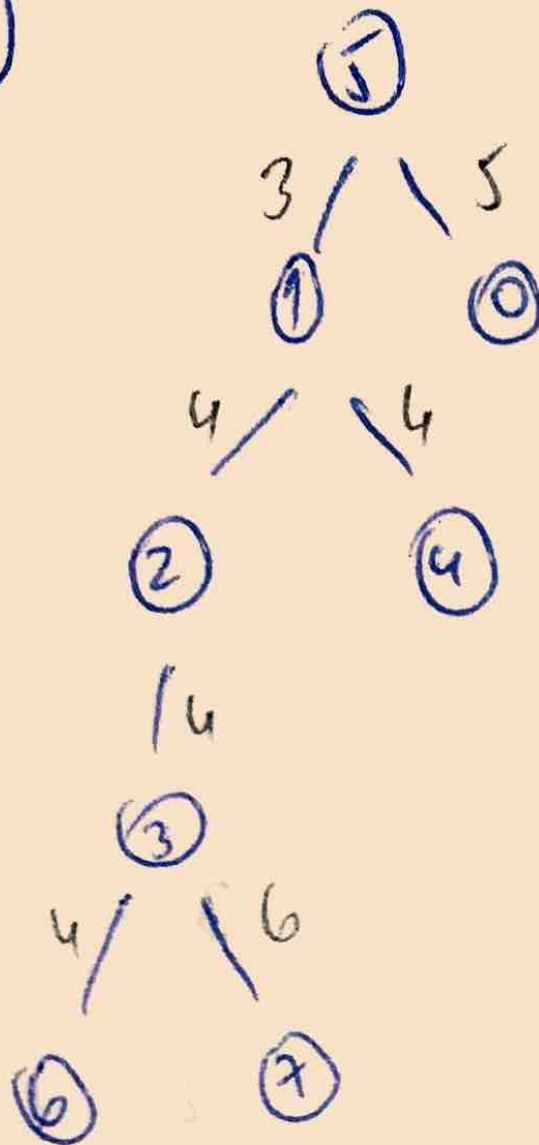


0	1	7
0	4	6
0	5	5
1	2	4
1	4	4
1	5	3
2	3	4
2	5	9
2	6	5
3	6	4
3	7	6
5	6	6

ITERATIONS	SELECTED EDGE	VISITED	EDGES	MST
initialization		0	{ } ← EMPTY	0
1	(5,0) - 5	0, 5	{ (5,0) }	5
2	(1,5) - 3	0, 5, 1	{ (5,0), (1,5) }	3
3	(2,1) - 4	0, 5, 1, 2,	{ (5,0), (1,5), (2,1) }	4
4	(3,2) - 4	0, 5, 1, 2, 3	{ (5,0), (1,5), (2,1), (3,2) }	4
5	(4,1) - 4	0, 5, 1, 2, 3, 4	{ (5,0), (1,5), (2,1), (3,2), (4,1) }	4
6	(6,3) - 4	0, 5, 1, 2, 3, 4, 6	{ (5,0), (1,5), (2,1), (3,2), (4,1), (6,3) }	6
7	(7,3) - 6	0, 5, 1, 2, 3, 4, 6, 7	{ (5,0), (1,5), (2,1), (3,2), (4,1), (6,3), (7,3) }	6
8		ALL VERTICES		 ✓

Cost = 30

or



=)

COST = 16