

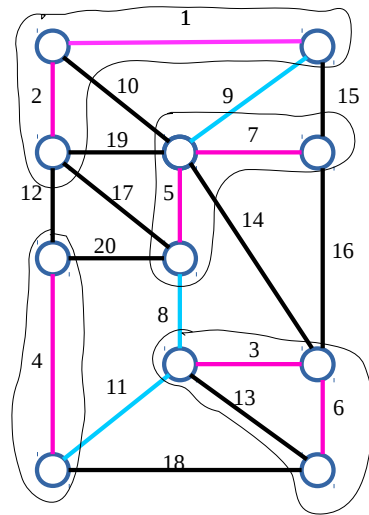
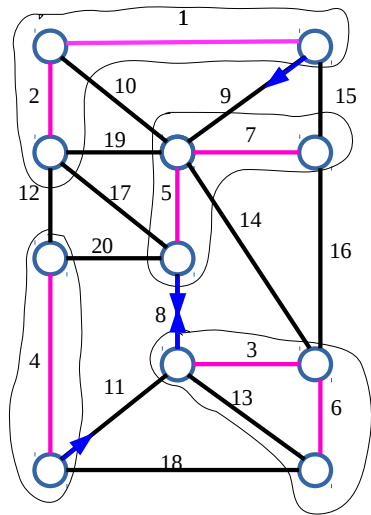
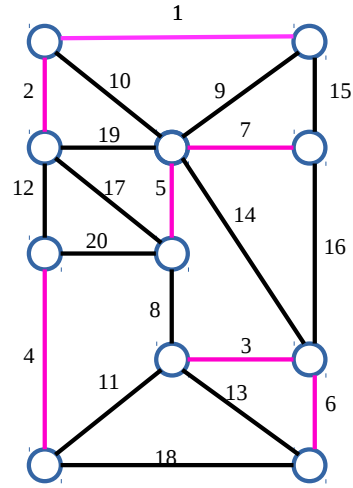
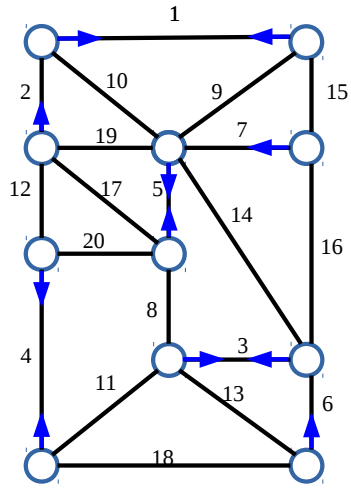
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1 Minimum Spanning Tree

1.1 Borůvka’s Algorithm

다음에 주어진 그래프에 대하여 Borůvka 알고리즘을 사용하여 Minimum Spanning Tree을 찾으시오. 각 단계마다 선택된 edge들과 connected component를 표시하시오.

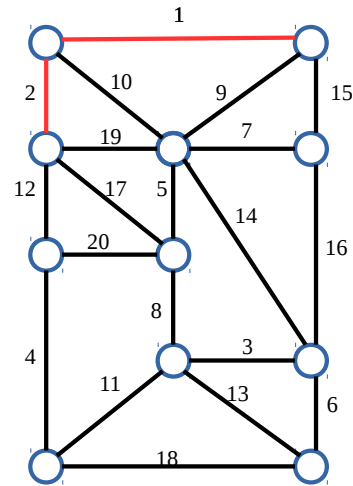
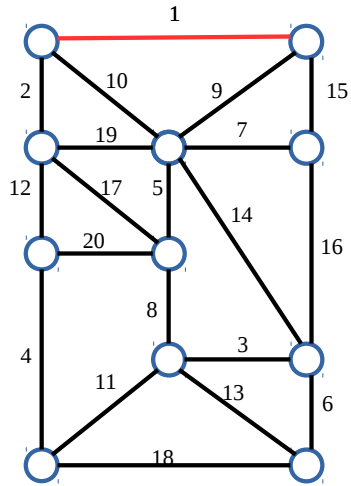


1.2 Kruskal's Algorithm

다음에 주어진 그래프에 대하여 Kruskal의 알고리즘을 사용하여 Minimum Spanning Tree을 찾으시오. 각 단계 마다 선택 되는 edge를 표시하고, cycle을 형성하기 때문에 useless edge로 폐기되는 edge들을 표시하시오.

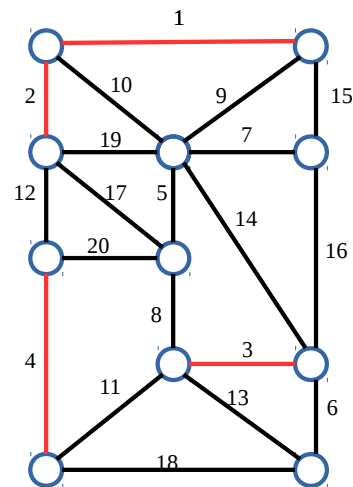
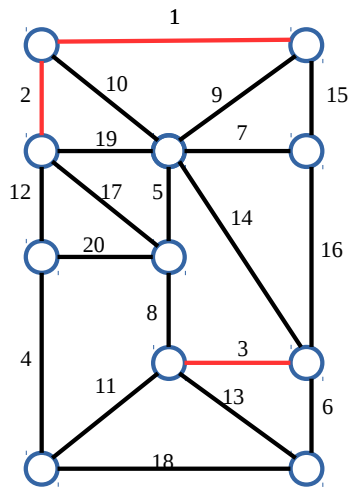
(1 2, 3, 4, 5, 6, 7, 8, 9, 10, |
11, 12, 13, 14, 15, 16, 17, 18, 19, 20)

(1 2 3, 4, 5, 6, 7, 8, 9, 10, |
11, 12, 13, 14, 15, 16, 17, 18, 19, 20)



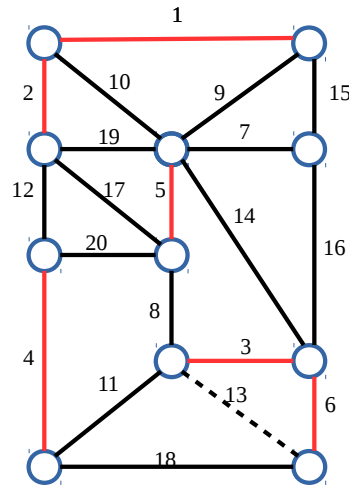
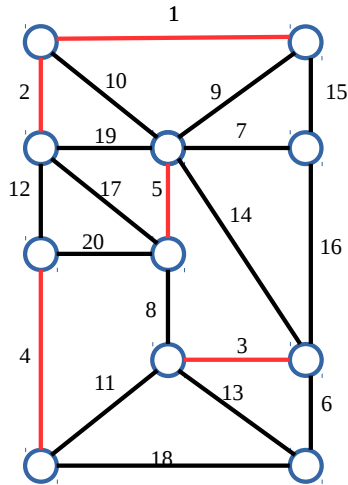
(1 2 3 4, 5, 6, 7, 8, 9, 10, |
11, 12, 13, 14, 15, 16, 17, 18, 19, 20)

(1 2 3 4 5, 6, 7, 8, 9, 10, |
11, 12, 13, 14, 15, 16, 17, 18, 19, 20)



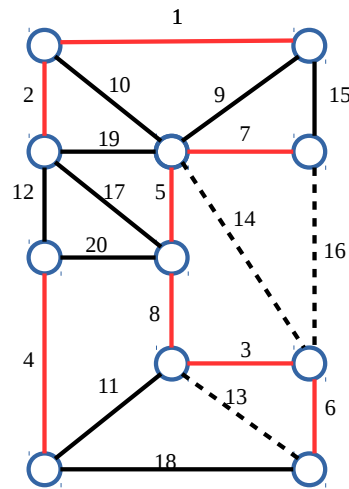
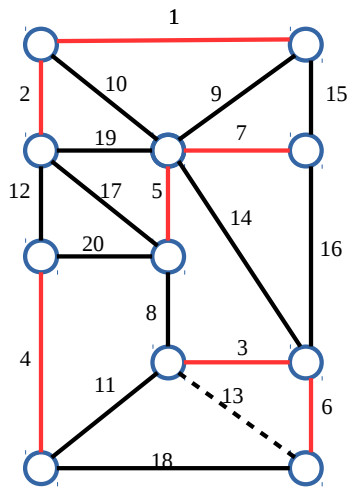
(1 2 3 4 5 6 7 8 9 10)
 (11 12 13 14 15 16 17 18 19 20)

(1 2 3 4 5 6 7 8 9 10)
 (11 12, ~~13~~, 14, 15, 16, 17, 18, 19, 20)



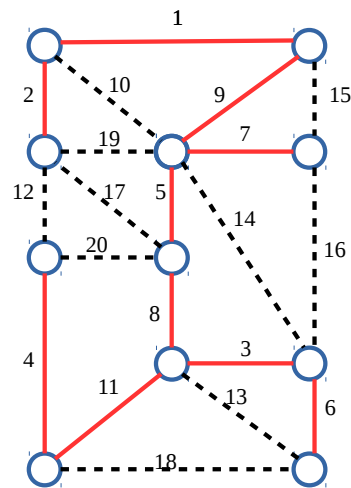
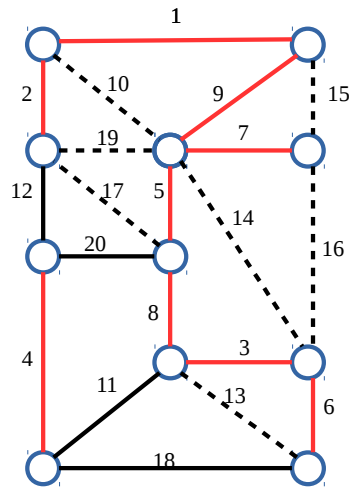
(1 2 3 4 5 6 7 8 9 10)
 (11 12, ~~13~~, 14, 15, 16, 17, 18, 19, 20)

(1 2 3 4 5 6 7 8 9 10)
 (11 12, ~~13~~, ~~14~~, 15, ~~16~~, 17, 18, 19, 20)



1, 2, 3, 4, 5, 6, 7, 8, 9, 18, 19, 20

1, 2, 3, 4, 5, 6, 7, 8, 9, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20



1.3 Prim's Algorithm

다음에 주어진 그래프에 대하여 Prim의 알고리즘을 사용하여 Minimum Spanning Tree을 찾으시오. 1번 edge부터 먼저 선택한다고 가정하고, 각 단계마다 선택되는 edge를 표시하고, cycle을 형성하기 때문에 useless edge로 폐기되는 edge들을 표시하시오.

