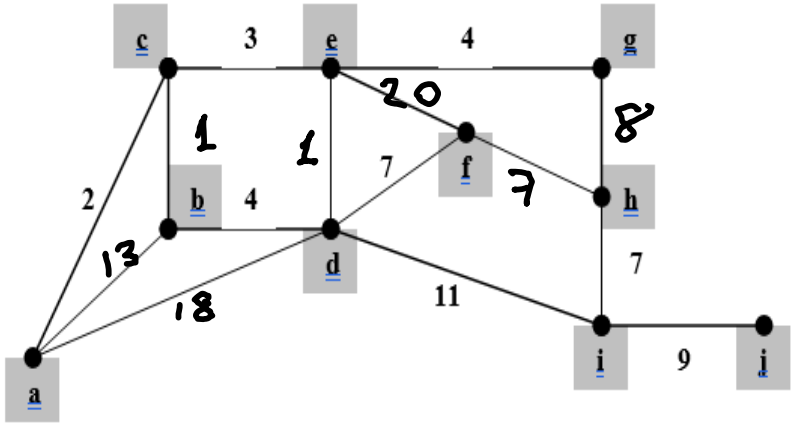
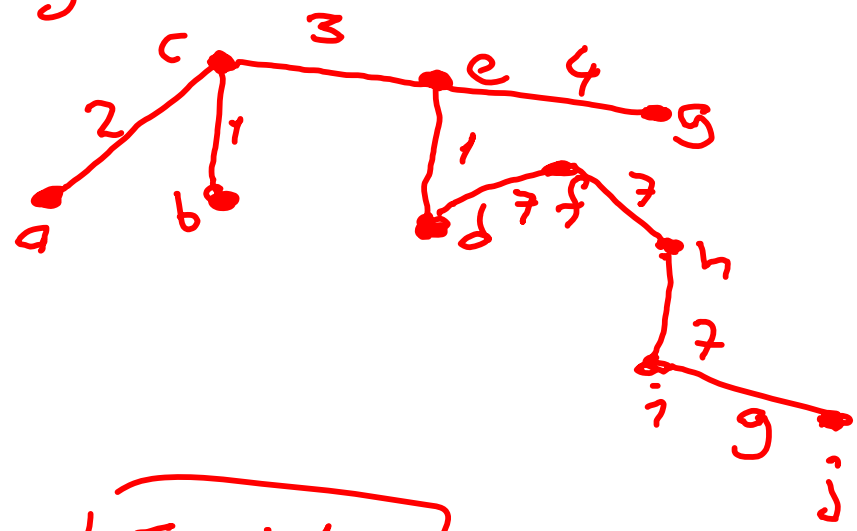
24.04.2021

Örnek 1: Aşağıdaki graf için Kruskal ve Prim algoritmalarını uygulayınız.



Kruskal Alg.

a-d	1 ✓
c-b	1 ✓
c-a	2 ✓
c-e	3 ✓
e-g	4 ✓
b-d	4 ✗
d-f	7 ✓
h-i	7 ✓
h-f	7 ✓
g-h	8 ✗
i-j	9 ✓
d-i	11
a-b	13
a-d	18



$\Sigma = 41$

→ tüm tepeler ziyaret edildi.

e-f 20

Prim Algoritması:

e tepesinden başladım.

~~e-c 3 *~~

~~e-g 4 *~~

~~e-d 1 *~~

e-f 20

~~d-b 4 *~~

~~d-f 7 *~~

d-i 11

~~c-b 1 *~~

~~c-a 2 *~~

b-a 13

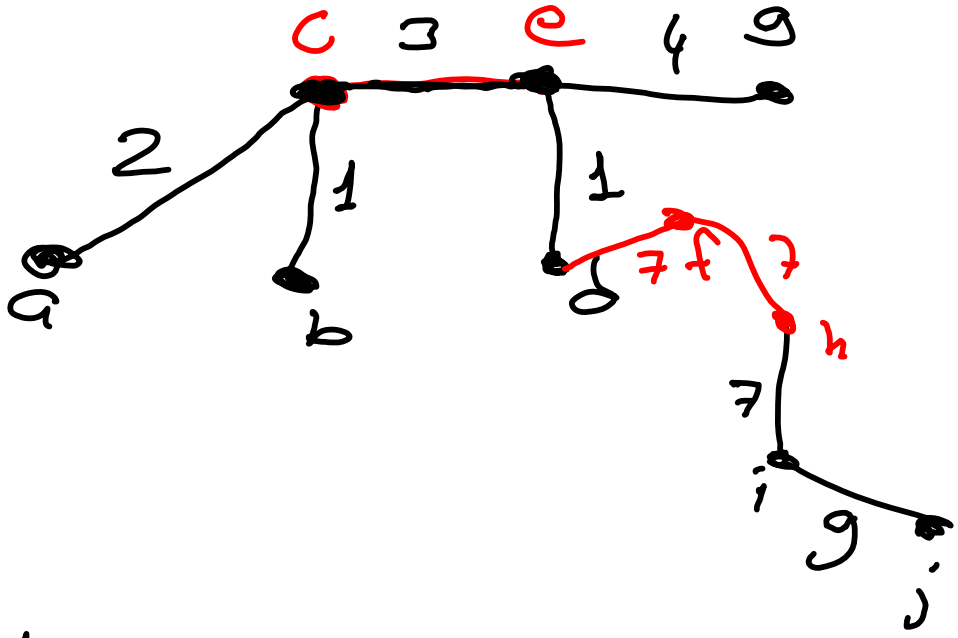
a-d 18

g-h 8

~~f-h 7 *~~

~~h-i 7 *~~

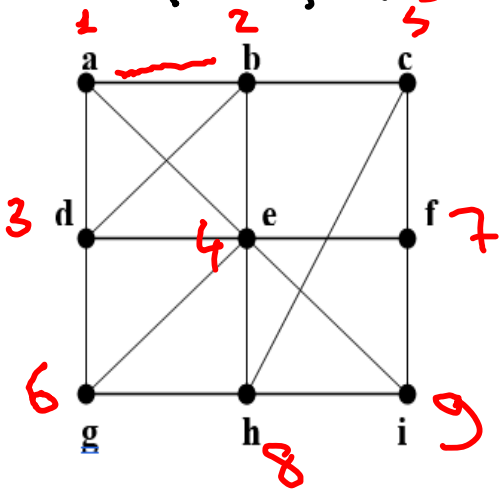
~~i-j 9 *~~



10 tane tepe ziyaret edildi.

$\Sigma = 41$

Örnek 2: Aşağıdaki graf için bir öğrenmiş ağaç bulunuz.

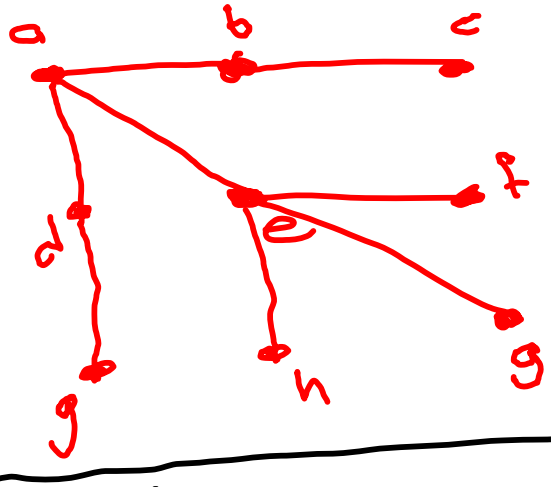


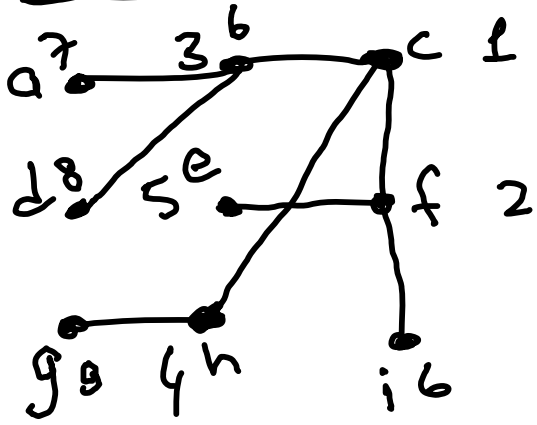
i=1 j≠2 j≠3 j≠4

i=2 j≠5

i=3 j≠6

i=4 j≠7 j≠8 j=9





i=1 j≠2 j≠3 j≠4

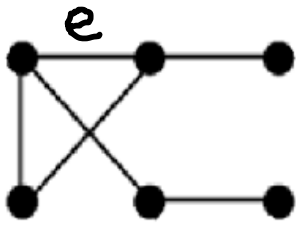
i=2 j≠5 j≠6

i=3 j≠7 j≠8 j=9 ok.

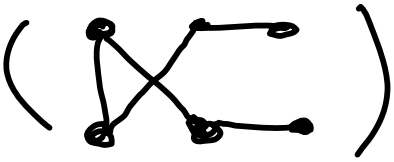
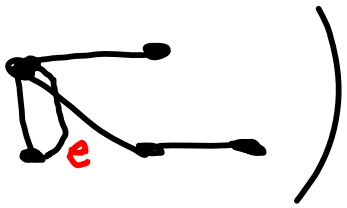
i=4

Örnek 3: Yandaki çizgenin bütün dallanmış ağaçlarını çiziniz.

kaç tane dallanmış ağaç çizer var?

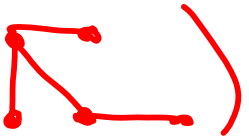


$$\tau(G) = \tau(G-e) + \tau(G \cdot e)$$

$$= \tau\left(\text{  }\right) + \tau\left(\text{  }\right)$$

Çevre yok

1

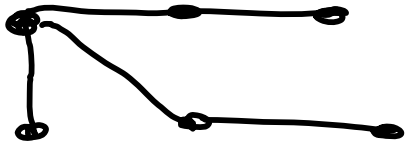
$+ \tau\left(\text{  }\right) + \tau\left(\text{  }\right)$

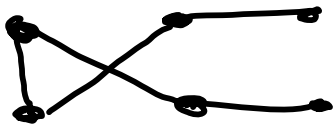
Çevre yok

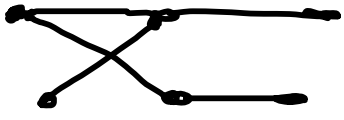
2

Çevre yok

3

1  1

2  1

3  1

Algoritma çevre üzerindeki eşitler çıkarılıp, bölünme işlemi yapılarak rekürsif olarak devam eder.

Gelecek ders: Graf üzerinde eşleşmeler

Maçer Algoritması