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No: 171 419 008

AVL TREE EKLEME

20, 30, 8, 47, 39, 18, 90, 8

1) 20

2) 20
 30

3) 20
 8 30

4) 20
 8 30
 47

5) 20
 8 30
 47

sağ-sol belirsizliği var

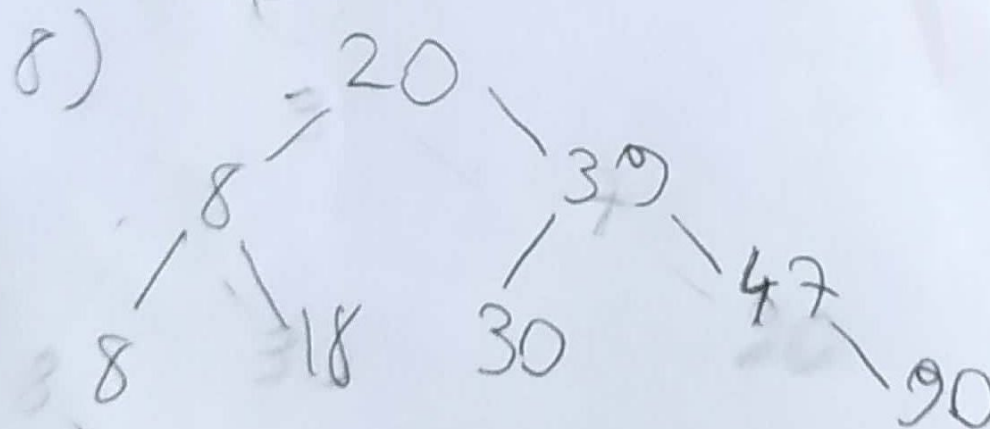
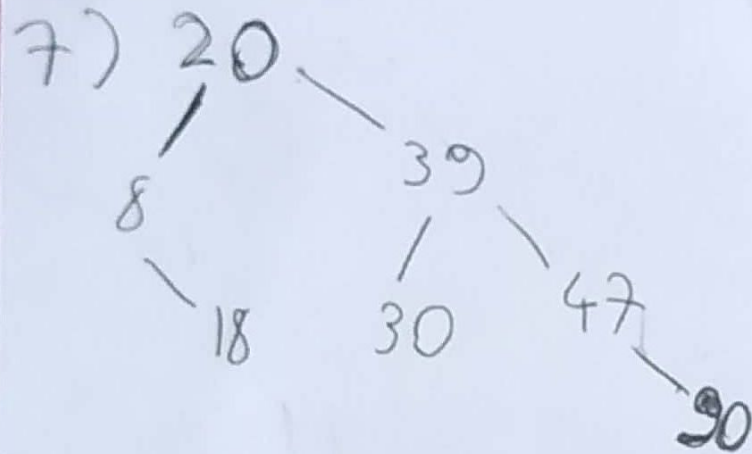
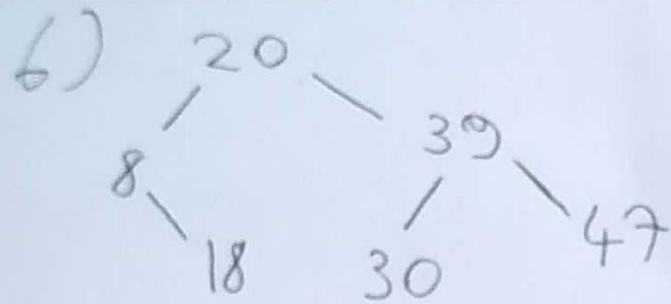
39

20
8 30
 39
 47

==>

20
8 39
 30 47

sağ sağ dengesizliği

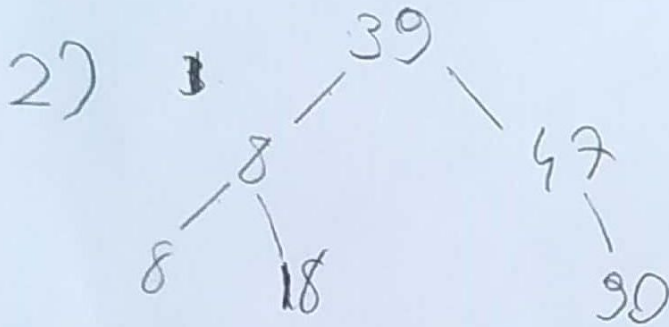
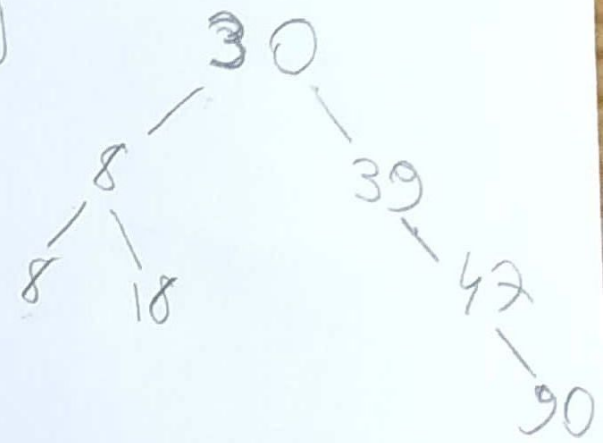
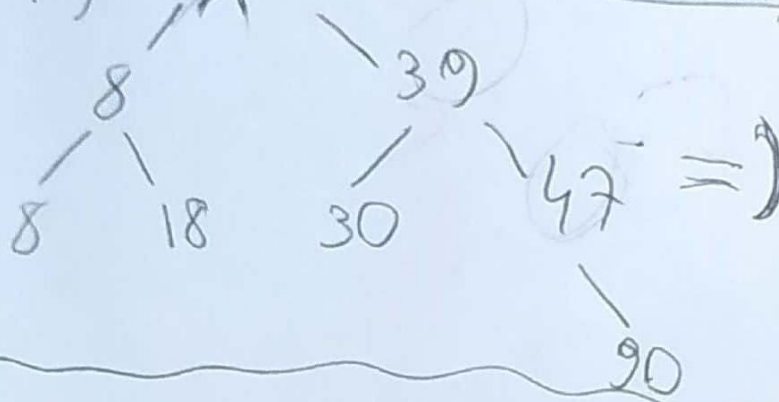


son durum
Ekleme bitti

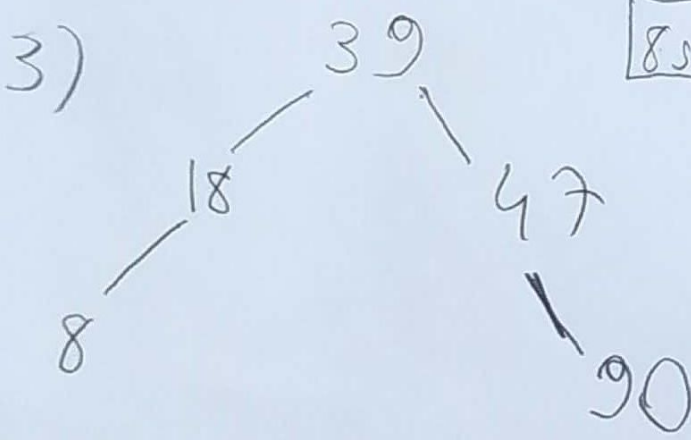
AVL TREE SİLME

1) ~~20~~

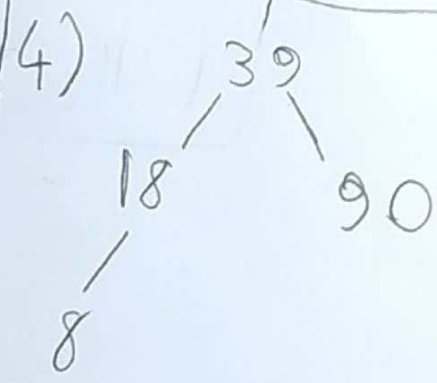
(20 siliniyor)



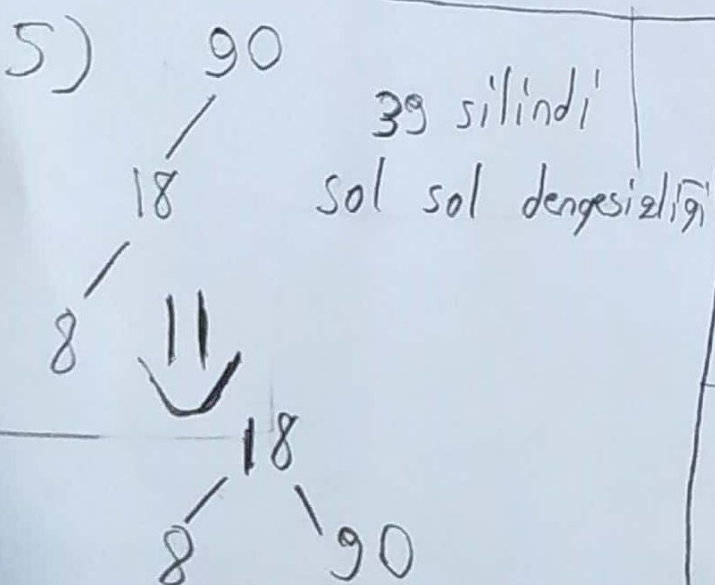
30 silindi



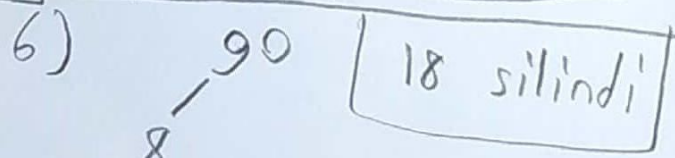
8 silindi



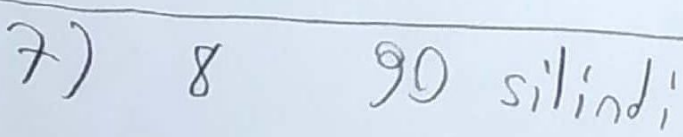
47 silindi



39 silindi
sol sol dengesizliği



18 silindi



8) işlem bitti 8 silindi

RED BLACK TREE

EKLEME

20, 30, 8, 47, 39, 18, 90, 8

1) (20) S

2) (20) S
 |
 (30) K

3) (20) S
 / \
 (8) K (30) K

4) (20) S
 / \
 (8) K (30) K
 |
 (47) K

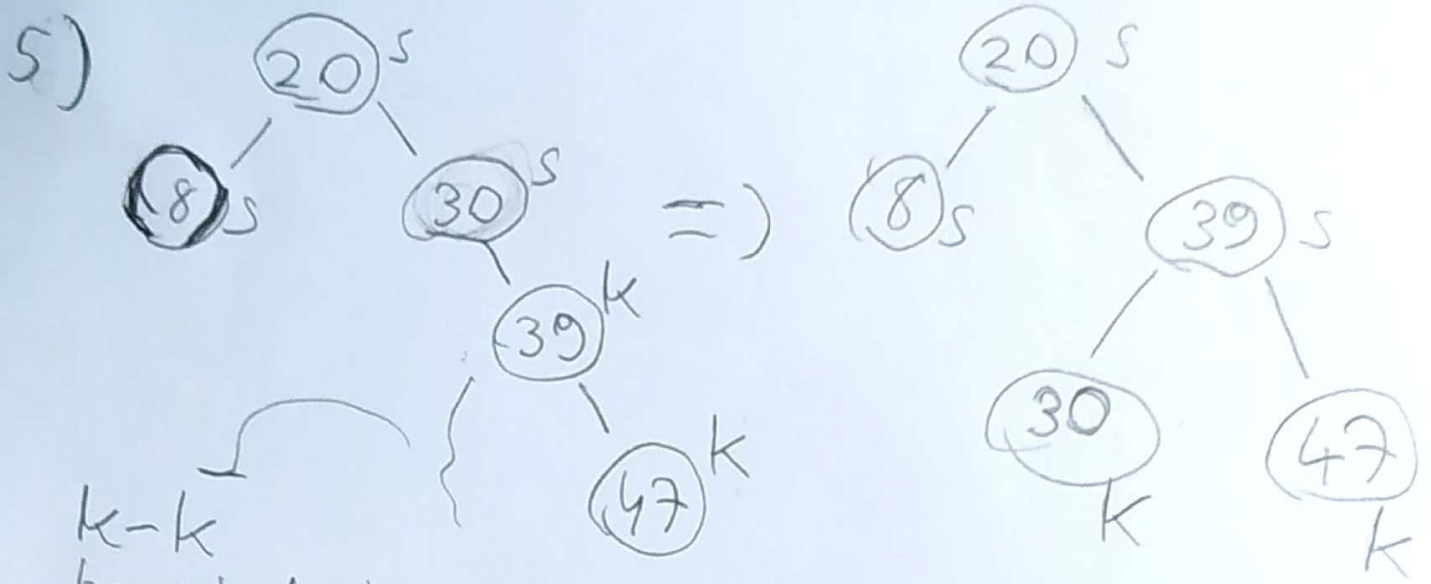
=> (20) K
 / \
 (8) S (30) S
 |
 (47) K

Amca kırmızı
old için 8 ve 30 siyah oldu.

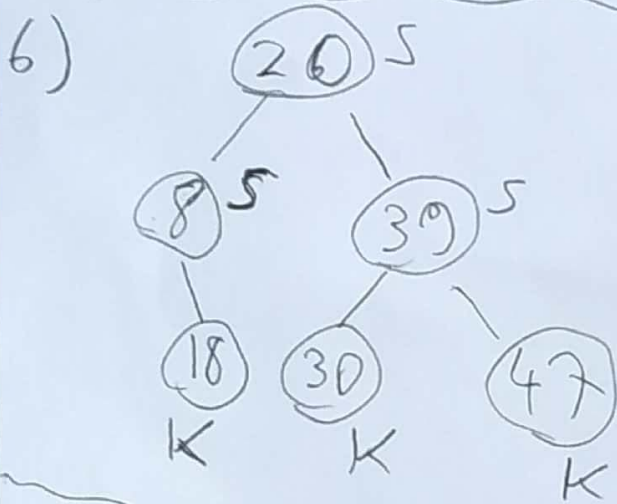
5) (20) S
 / \
 (8) S (30) S
 |
 (47) K
 / \
 K (39) K

Deramı arkadaş

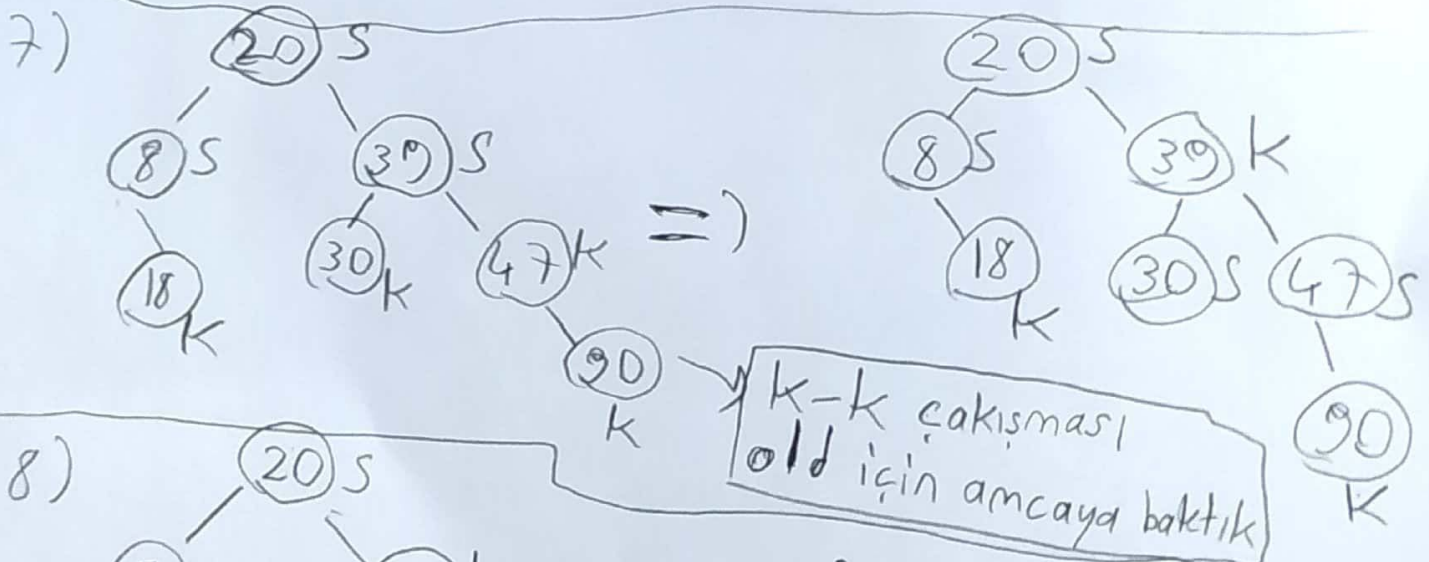
K-K dengesizliği var
ve o yüzden dengeye
bakıyoruz sağ-sol dengesizliği



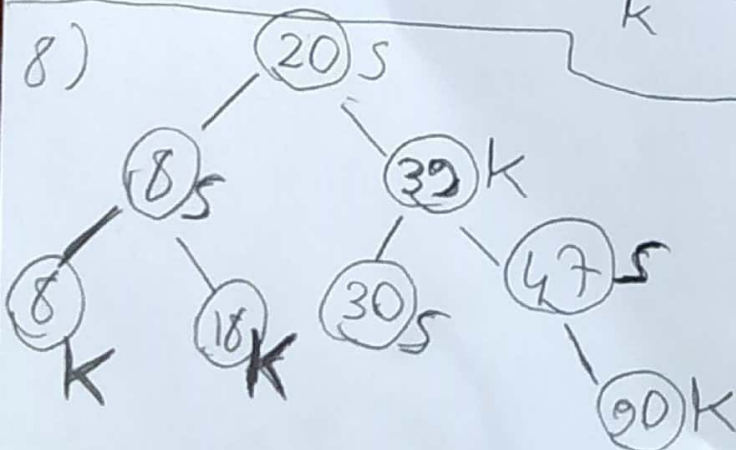
k-k
dengeşizliği var
Rotate yapıyoruz.



çakışma yok

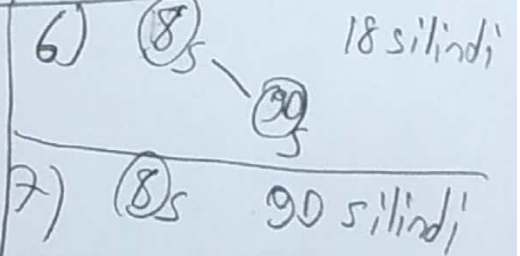
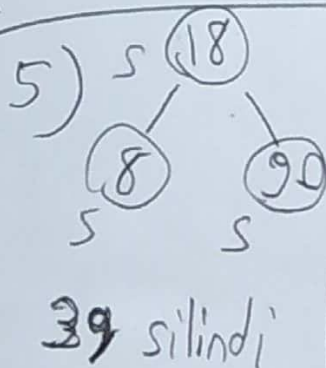
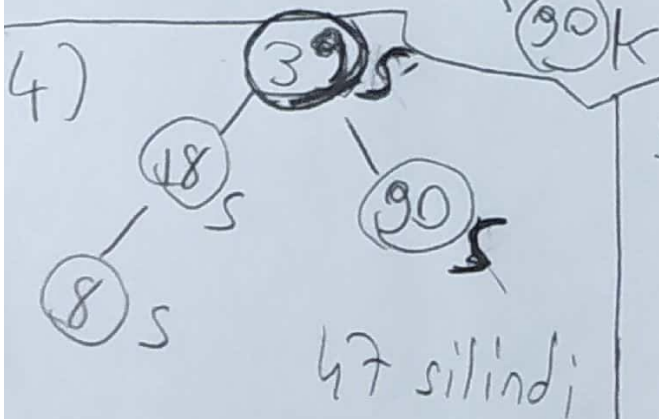
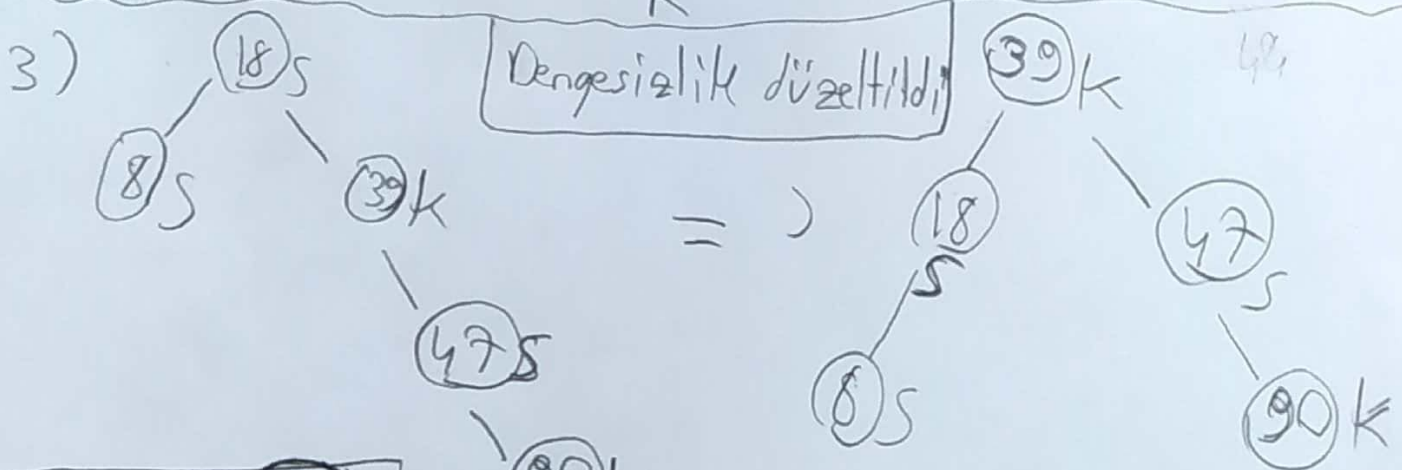
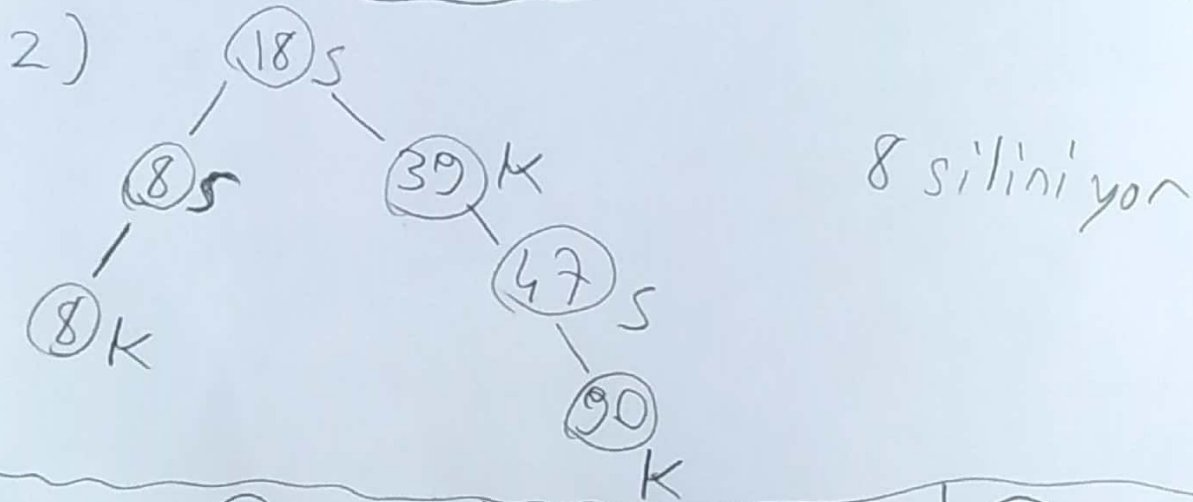
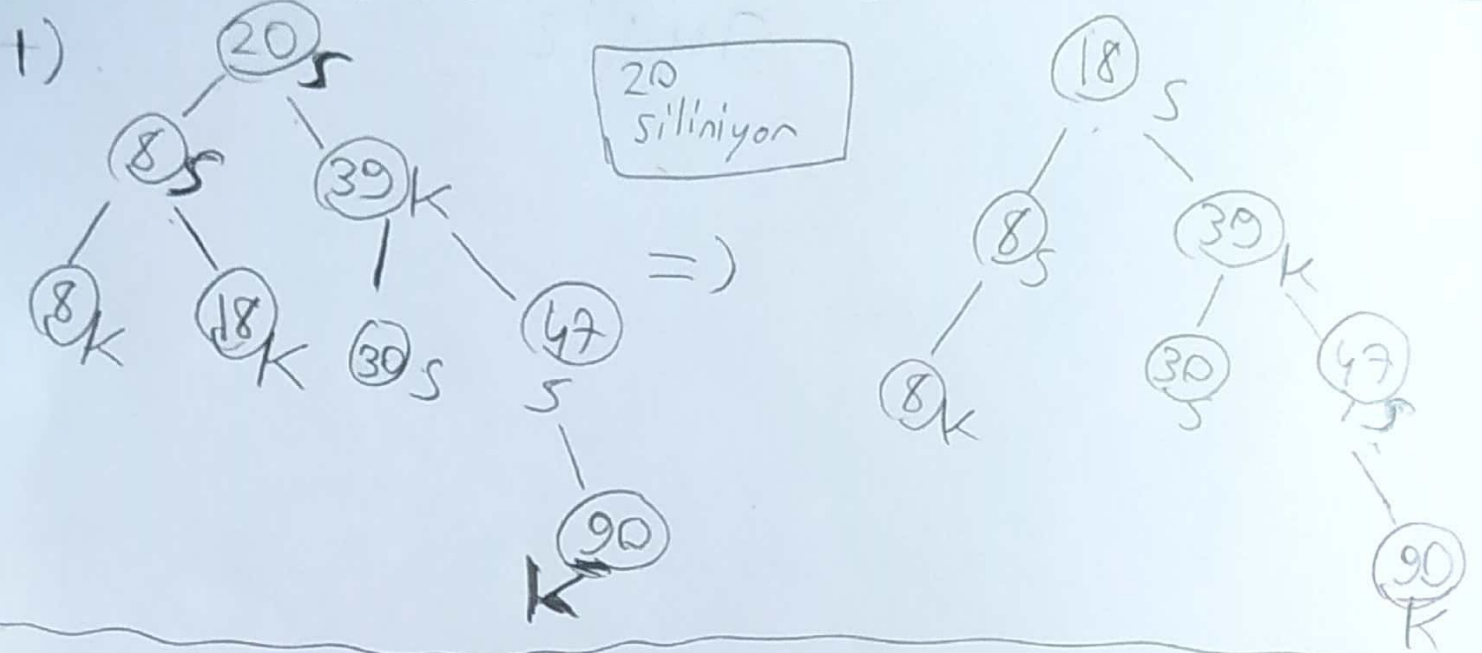


k-k çakışması
old için amcaya baktık



son durumda
böyle

RED BLACK TREE SİLME




8) işlem bitti!
8'de silindi!!!

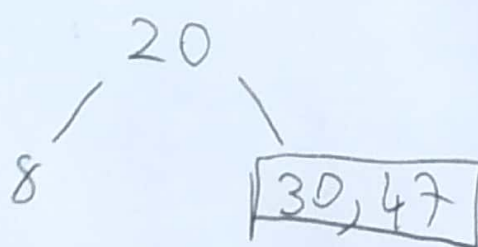
2-3 TREE EKLEME

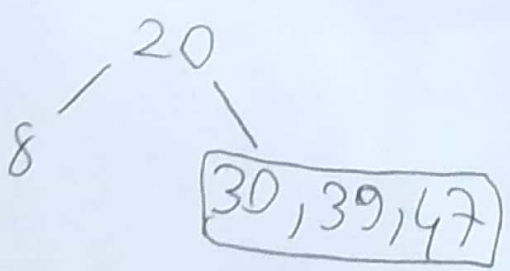
20, 30, 8, 47, 39, 18, 90, 8

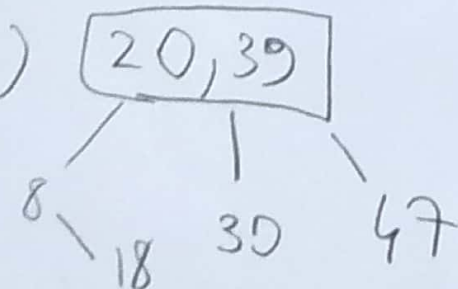
1) 20

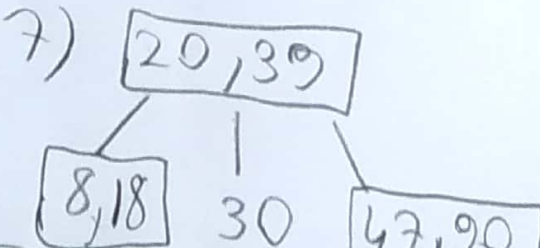
2) [20, 30]

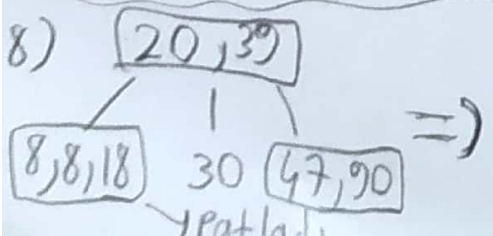
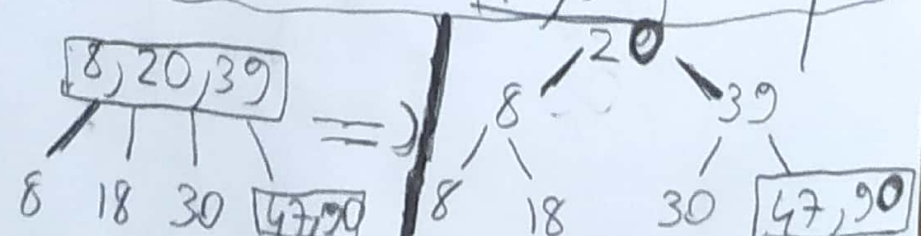
3) [8, 20, 30] =)
Node patlad, 

4) 

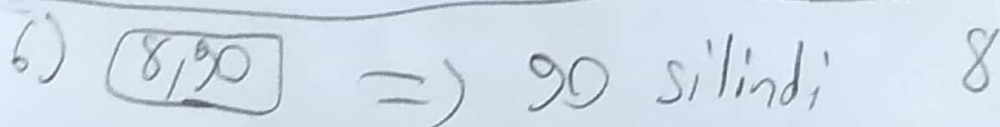
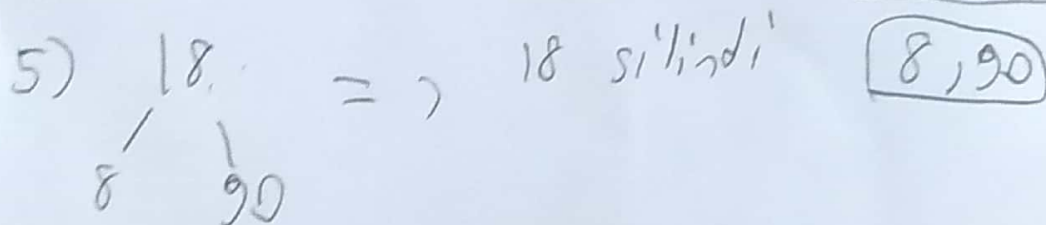
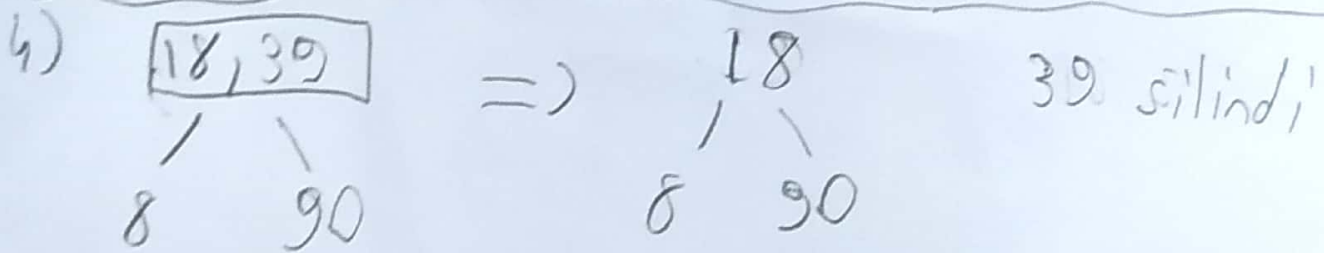
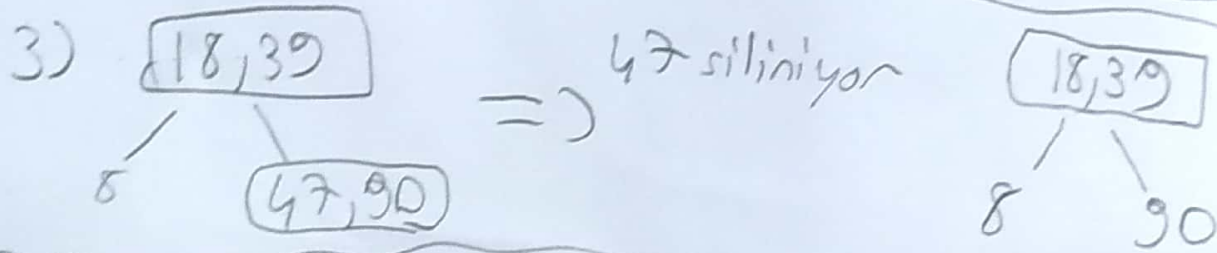
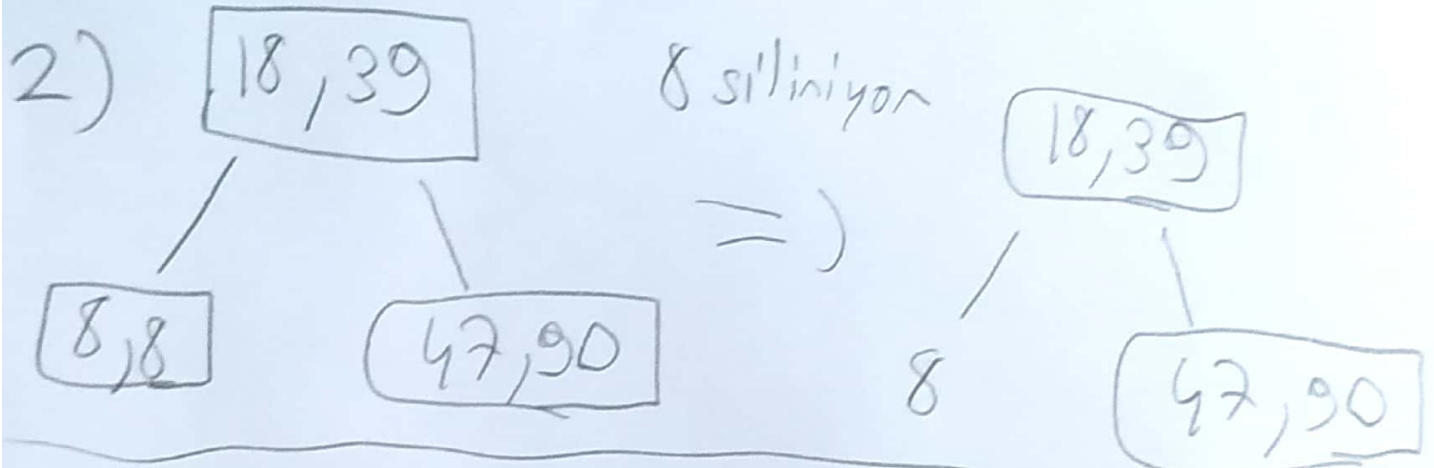
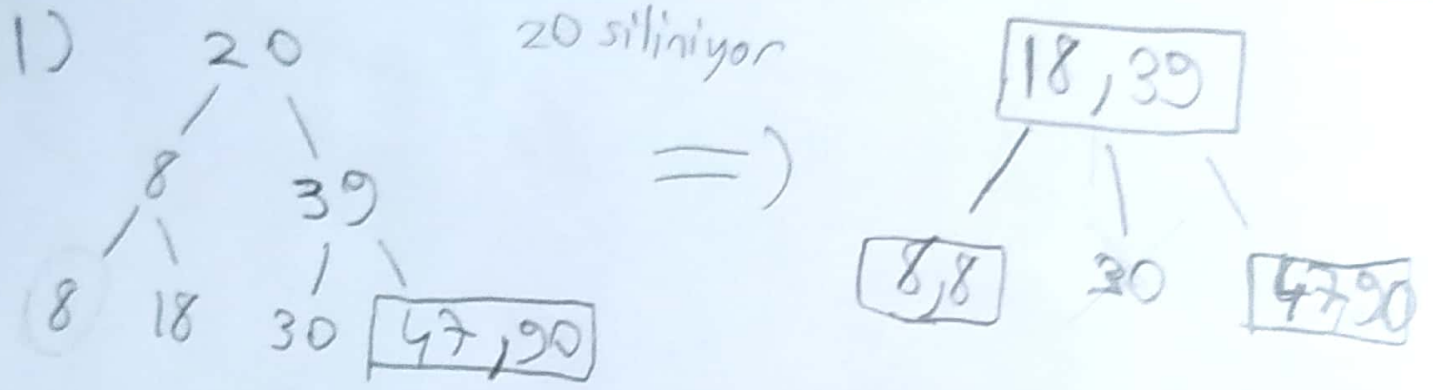
5)  =) 

6) 

7)  Cevap ↑

8)  =) 

2-3 TREE SİLME



7) 8 silindi ve işlem bitti