

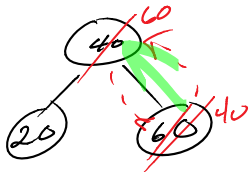
insertion - heap (max)

(20)

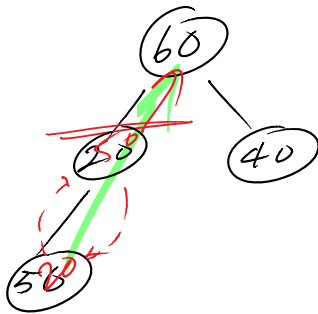
0	
20	



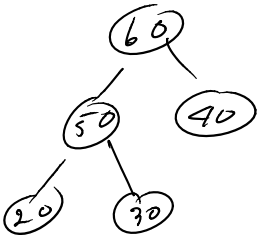
0	1	
20	40	



0	1	2
40	20	60



0	1	2	3
60	20	40	50

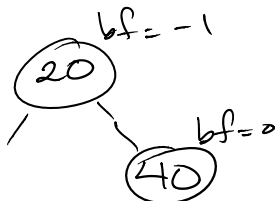


0	1	2	3	4
60	50	40	20	30

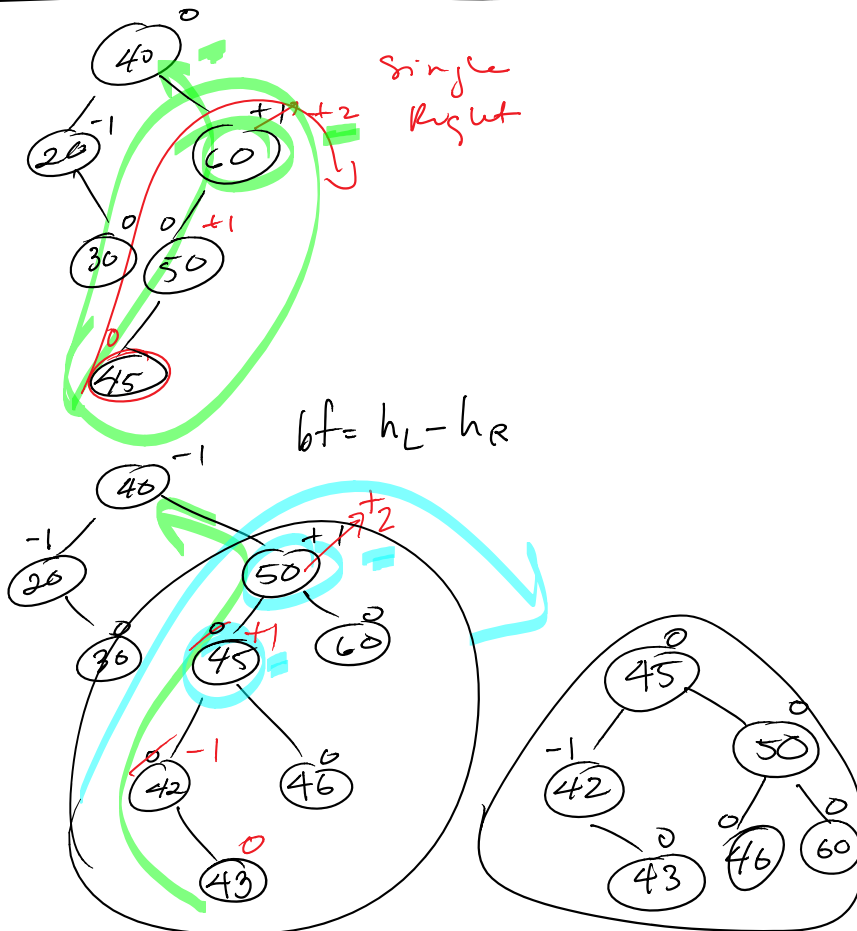
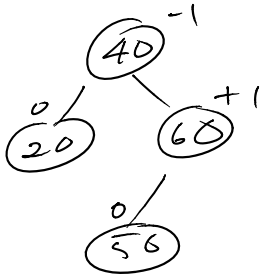
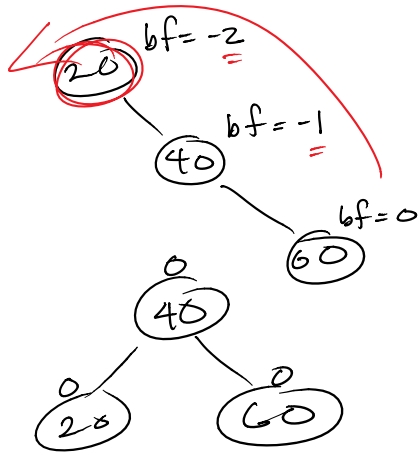
20, 40, 60, 50, 30

AVL Tree

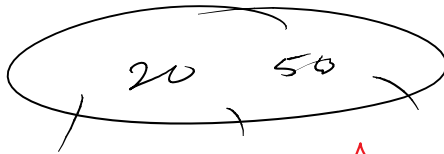
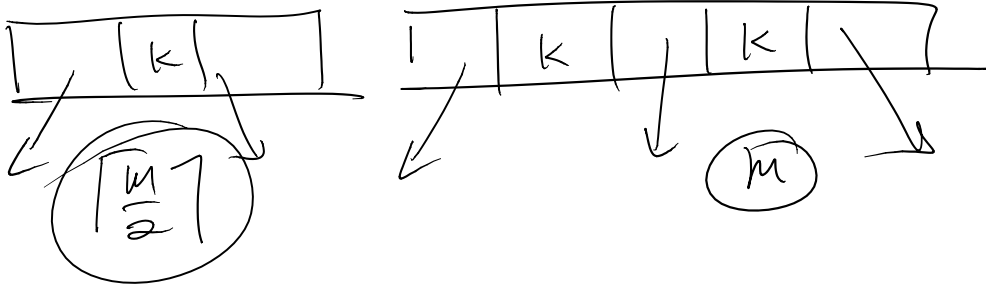
$$bf = h_L - h_R$$



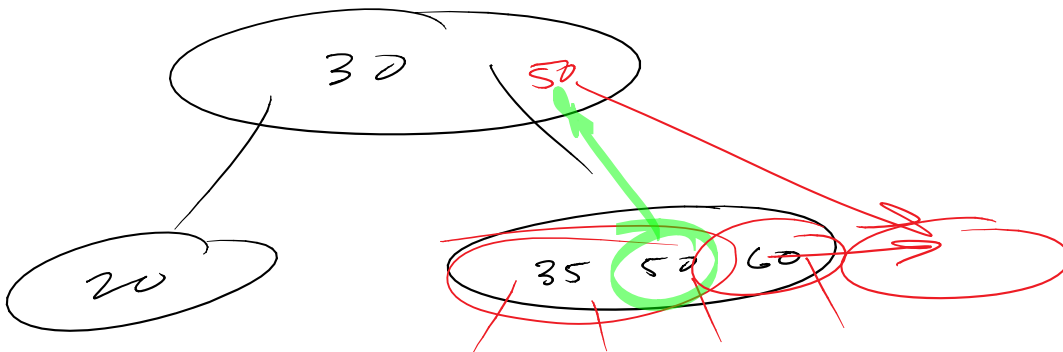
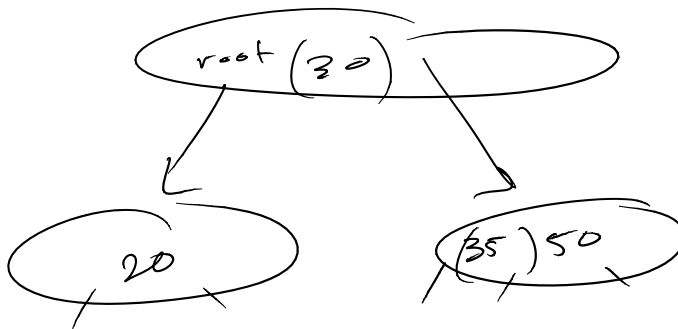
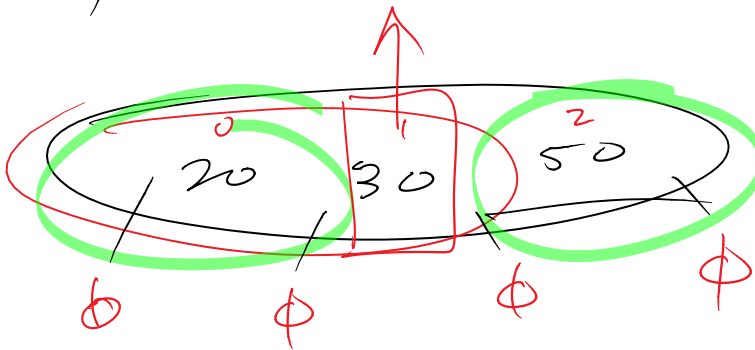
Single Left

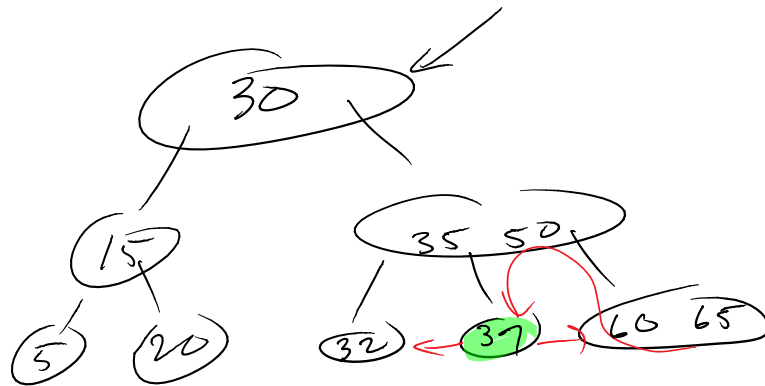
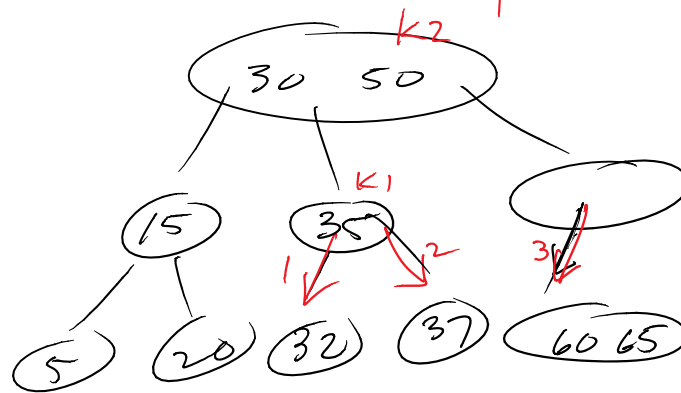
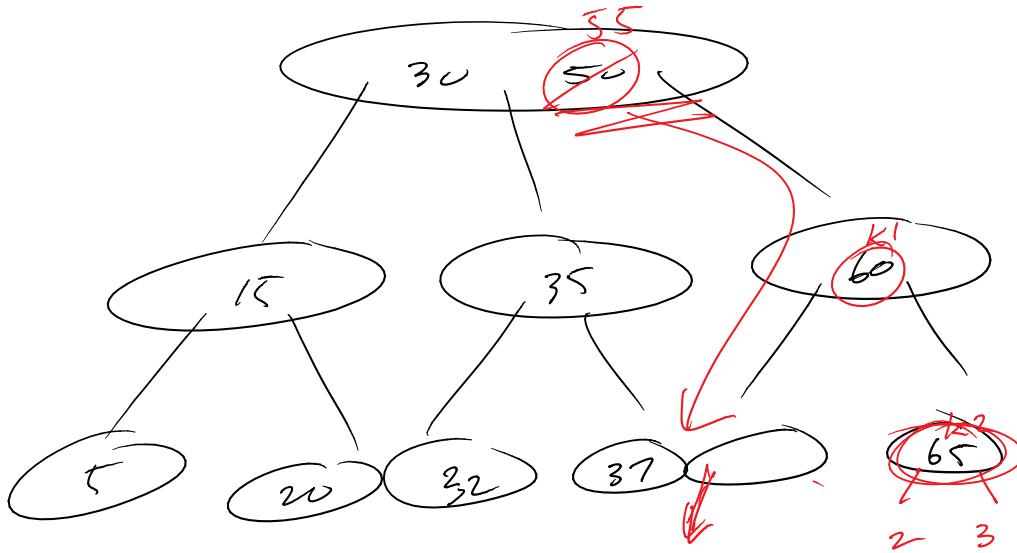


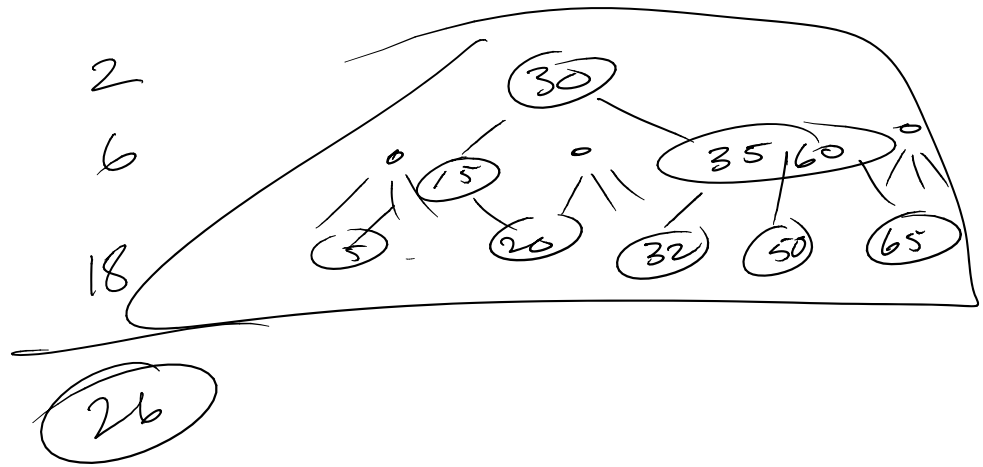
Btree order $m=3$



$\frac{30}{2} = 15$

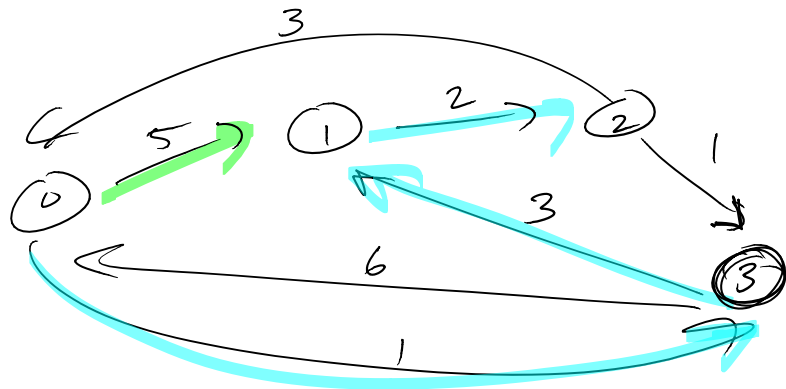






Single Source Shortest Path

$$s=0 \quad \frac{D[1]}{0} \quad \frac{D[2]}{0} \quad \dots \quad \frac{D[V]}{0}$$



$$s=0 \quad \frac{D[1]}{5} \quad \frac{D[2]}{\infty} \quad \frac{D[3]}{1}$$

4 ∞ 1

Path

0	1	2	3
-1	3	1	-1

$$v_0 \Rightarrow v_2$$

$$V_0 \Rightarrow 1 \Rightarrow V_2$$

$$V_0 \Rightarrow 3 \rightarrow 1 \Rightarrow V_2$$

$$\underline{0 \rightarrow 3} \rightarrow \underline{1} \rightarrow \underline{2}$$

Single Source

All pairs of shortest path

$$(i) \rightsquigarrow (j)$$

Floyds Algorithm