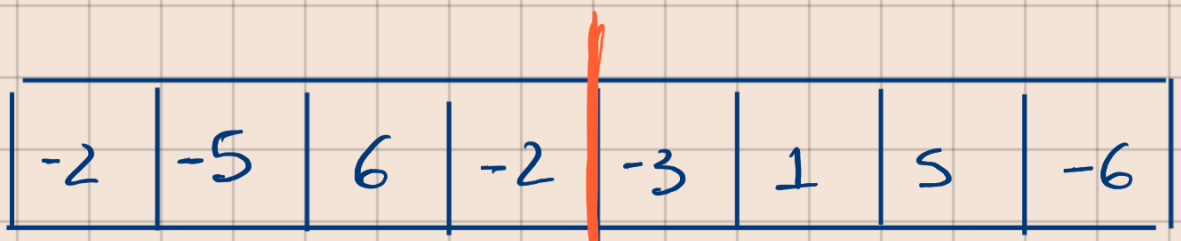
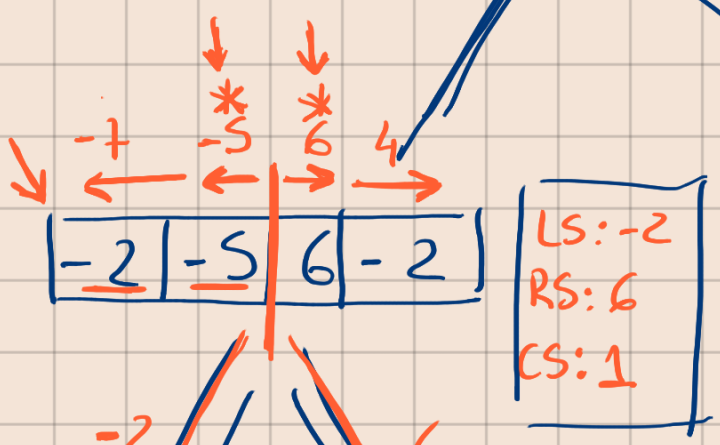
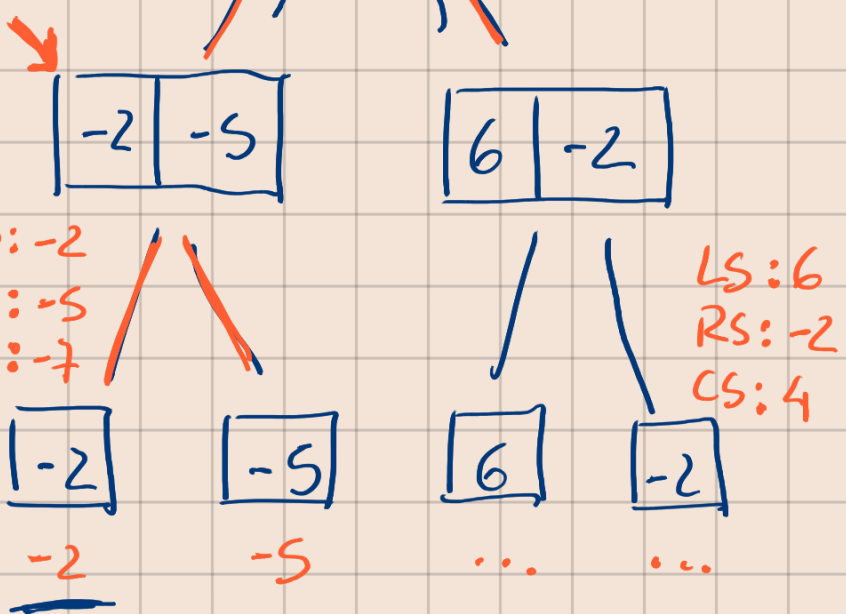
Divide and Conquer

1. divide
2. conquer
3. merge / combine





...



MAXSUBARRAY(A, p, r) → T(n)

if p == r then return A[p]

q ← (p+r)/2

L ← MAXSUBARRAY(A, p, q) → T(n/2)

R ← MAXSUBARRAY(A, q+1, r) → T(n/2)

C ← MAXCROSSING(A, p, q, r) → Θ(n)

return MAX(L, R, C)

$$T(n) = 2T(n/2) + \Theta(n)$$

$$\Theta(n \log n)$$