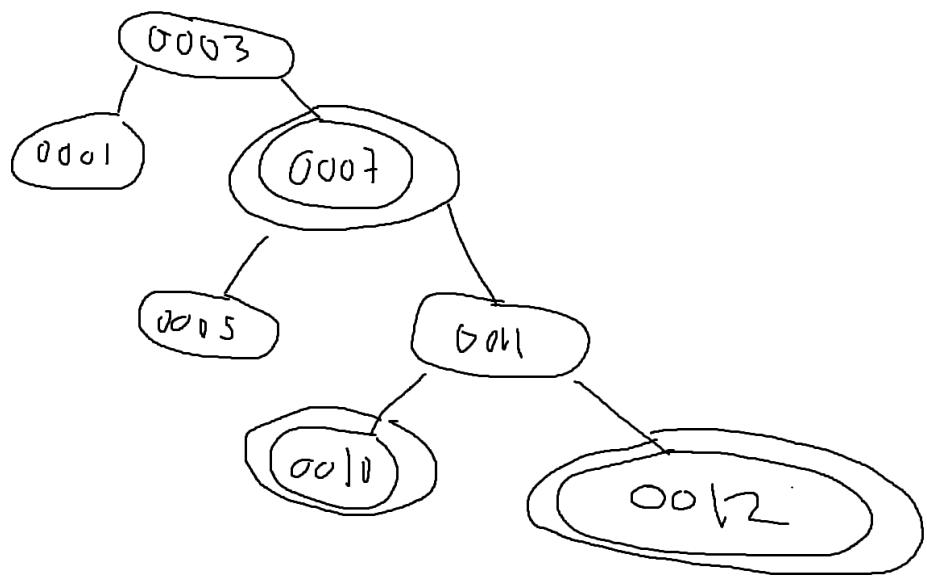
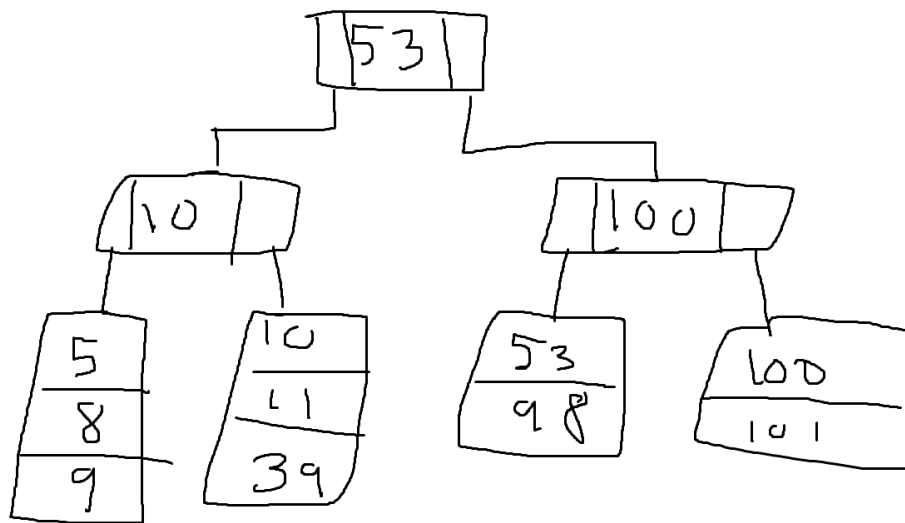


1.

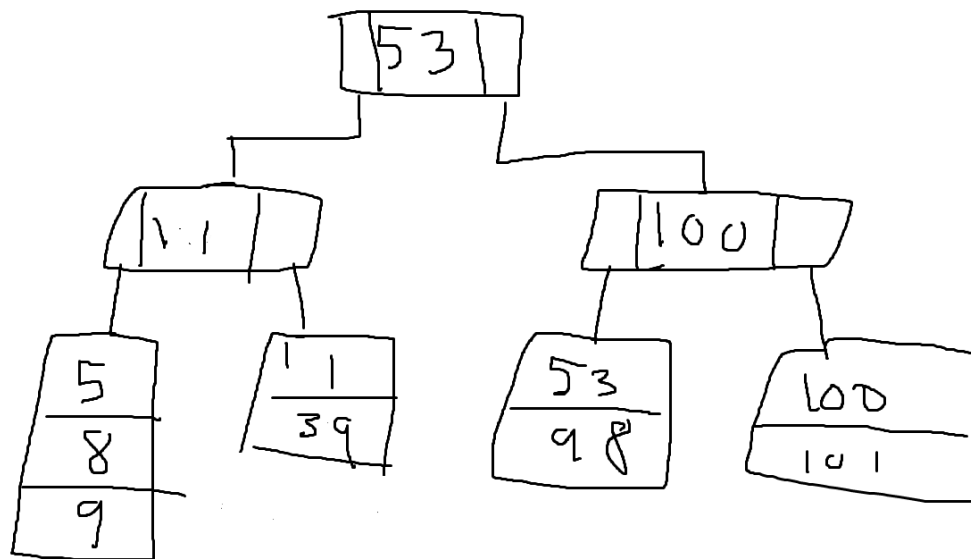


2.

3. a



b.



4. a. $m = \text{floor}(\frac{8192+8}{8+8}) = 512$

b. $8192/44 = 186$

c. $\log_{512}(\text{ceiling}(\frac{N}{186}))$

d. $\log_{512}(\text{ceiling}(\frac{30000}{186}))$

e. $\log_{512}(\text{ceiling}(\frac{2500000}{186}))$