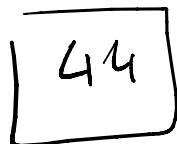


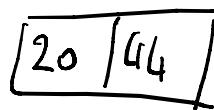
Cemil Mert Özdemir - 21803303 - HW6

1)

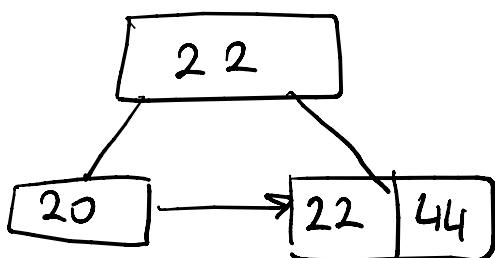
a)



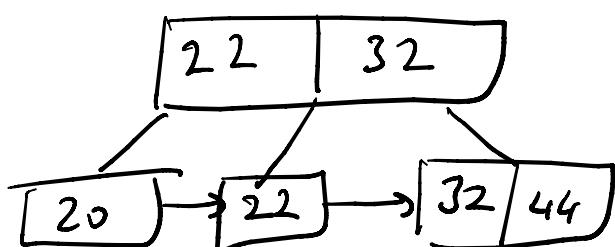
insert + 44



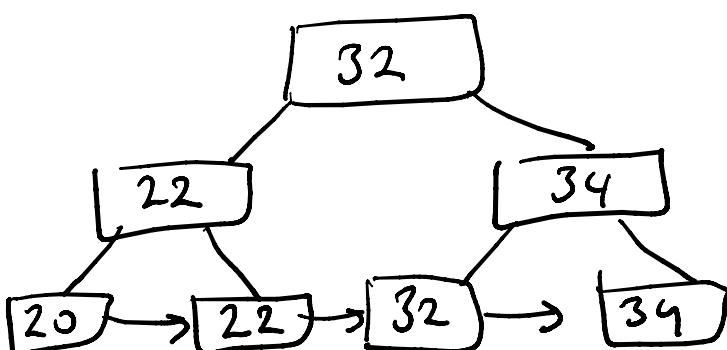
insert + 20



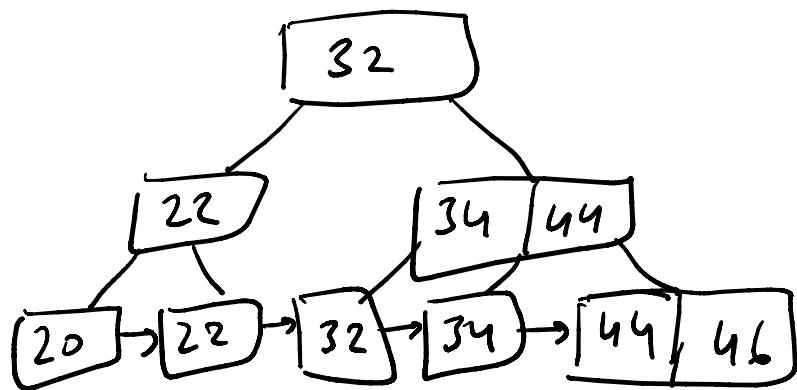
insert + 22



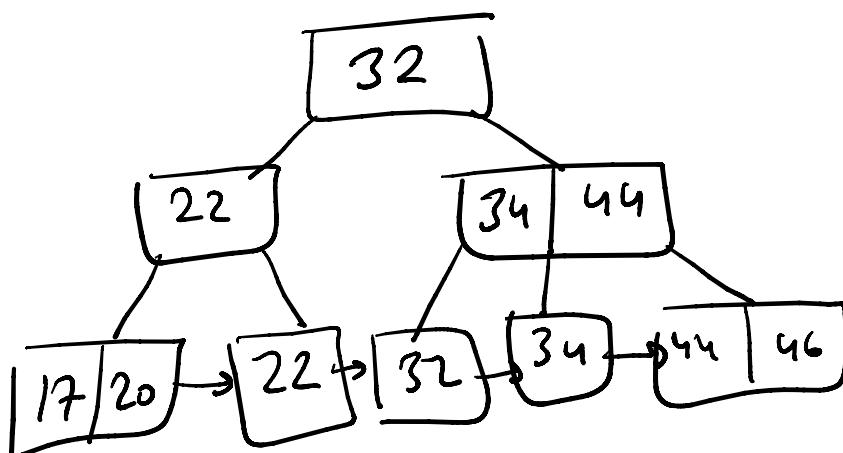
insert + 32



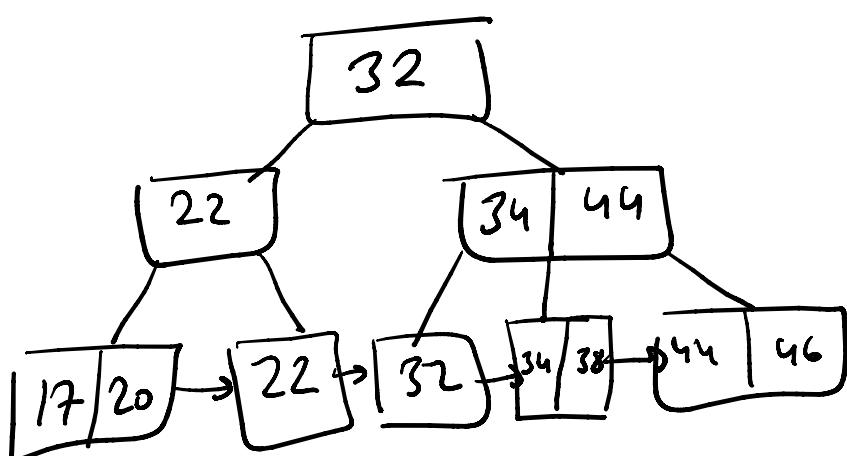
insert + 34



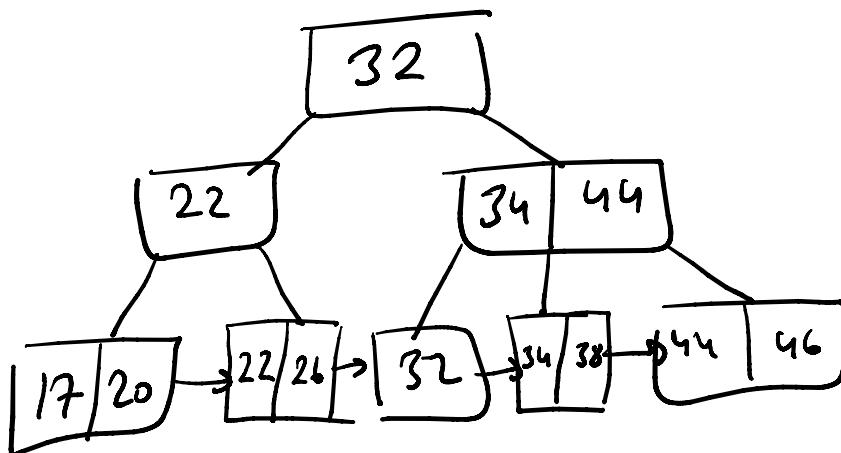
insert 46



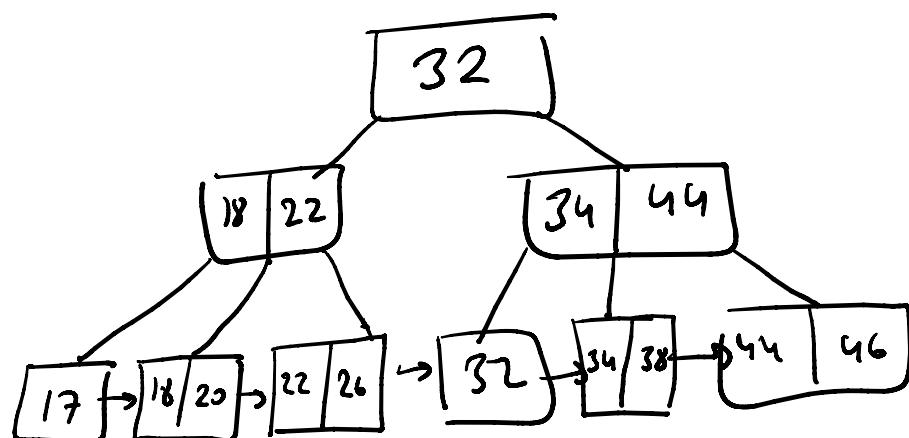
insert 17



insert 38



insert 26

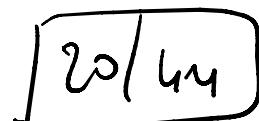


insert 18

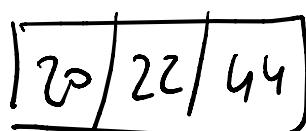
b)



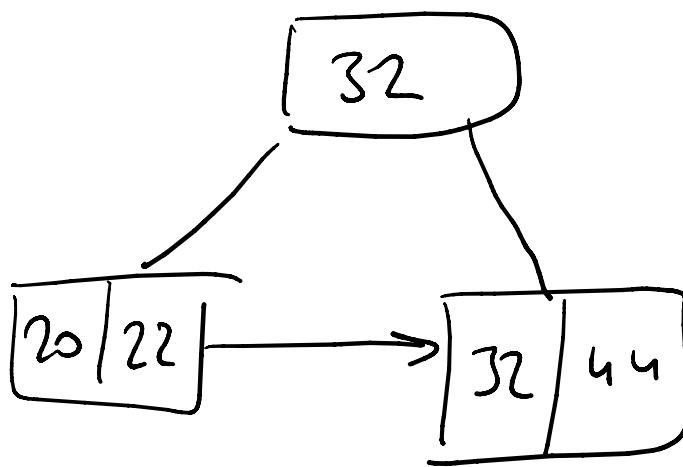
insert 44



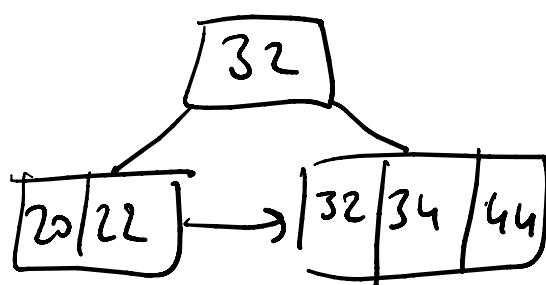
insert 20



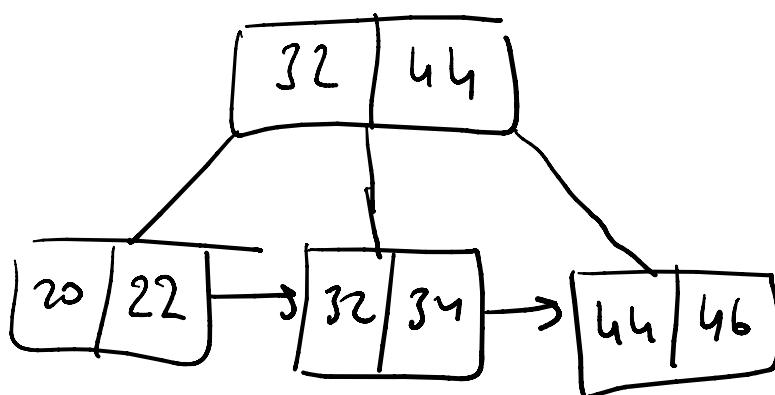
insert 22



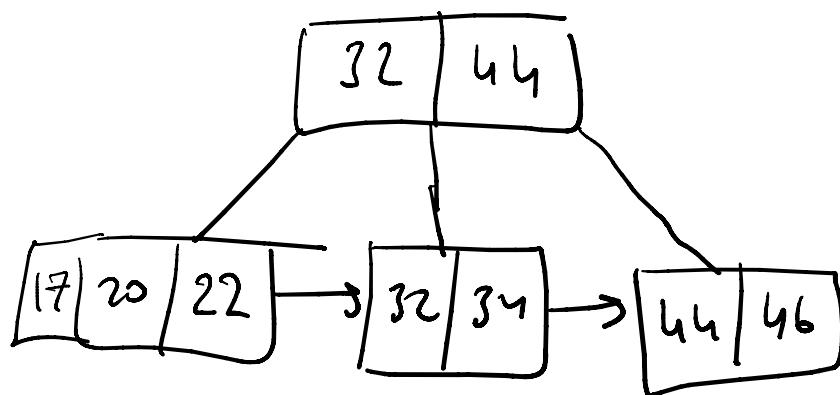
insert 32



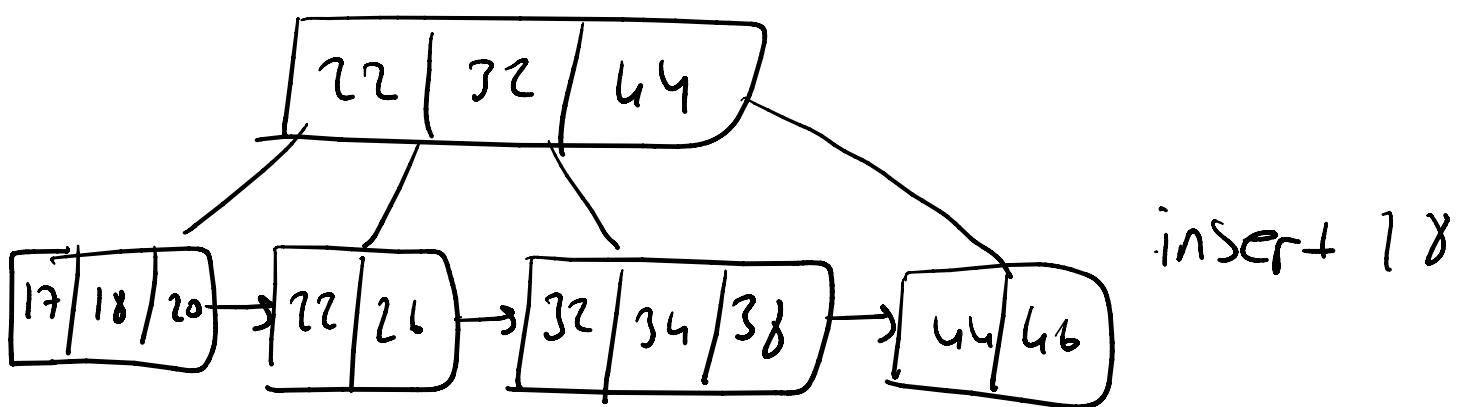
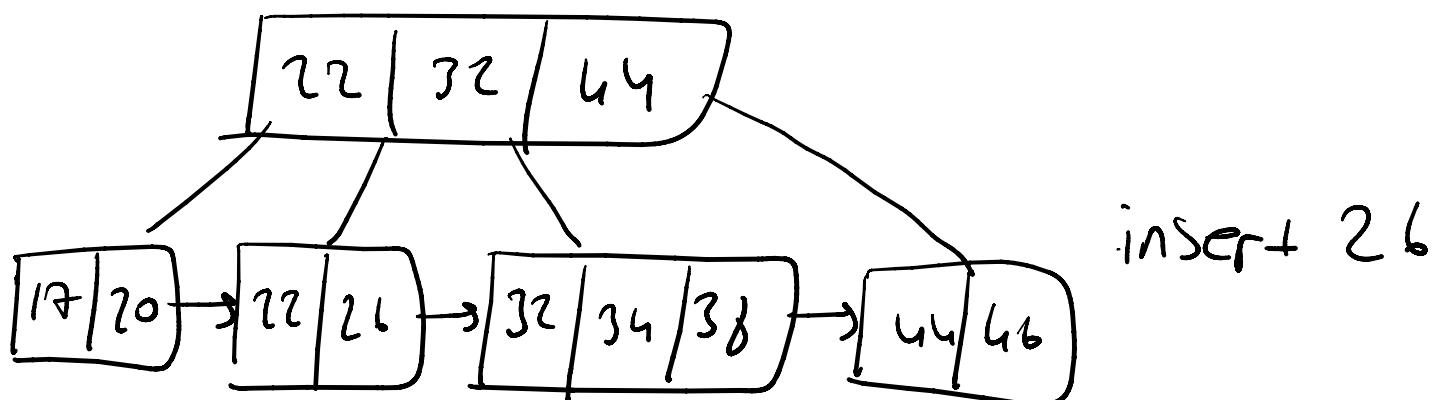
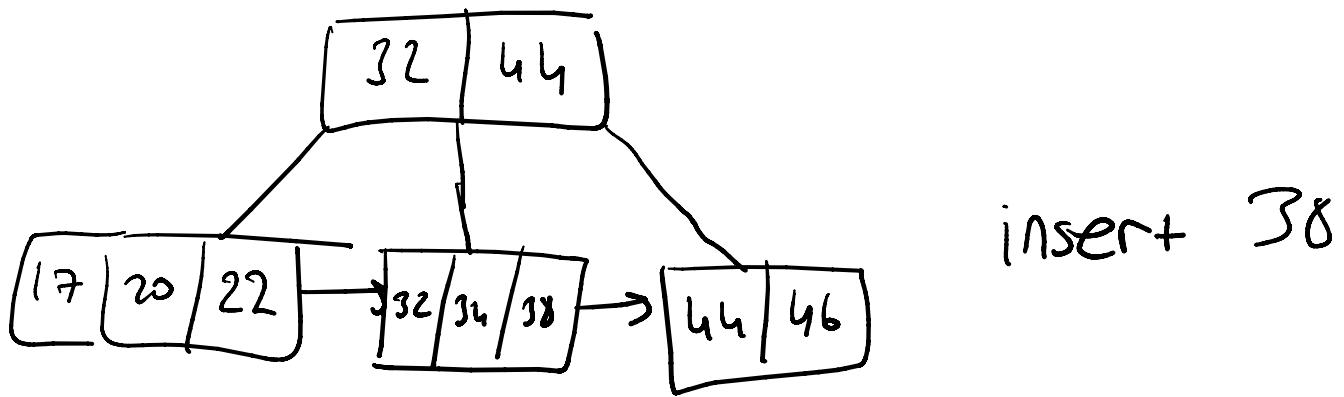
insert 34



insert 46



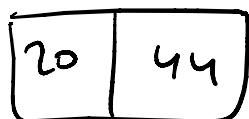
insert 17



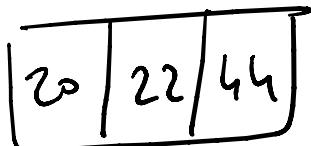
c)



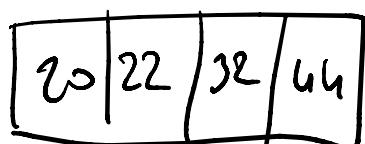
insert 44



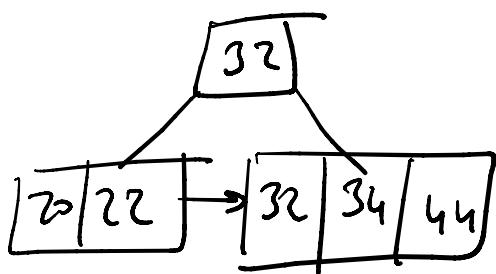
insert 20



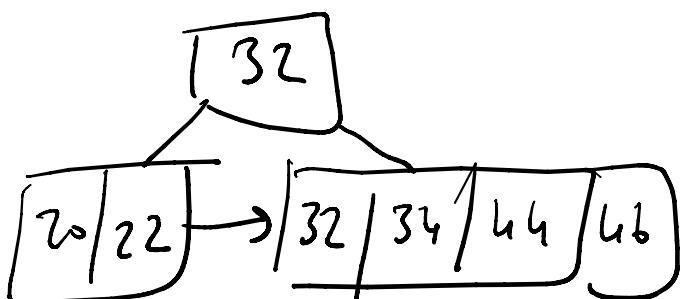
insert 22



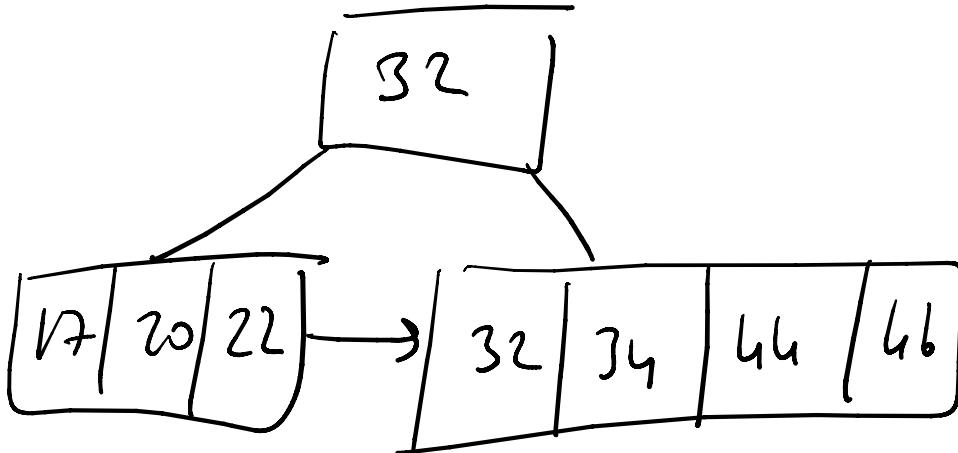
insert 32



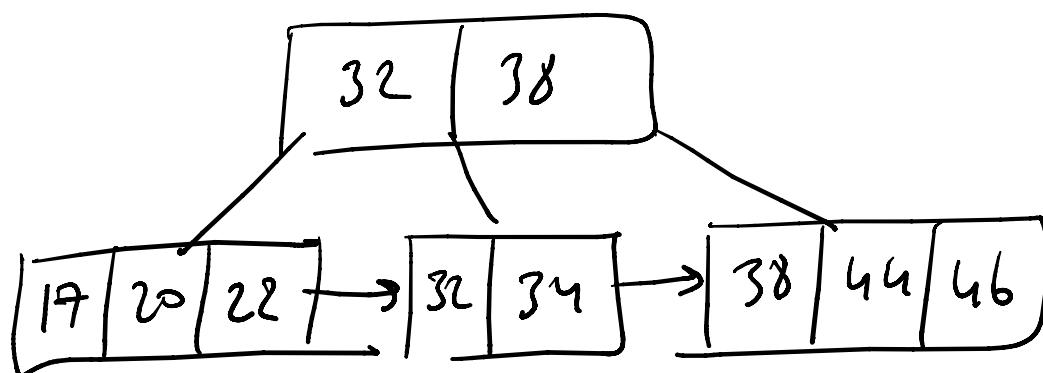
insert 34



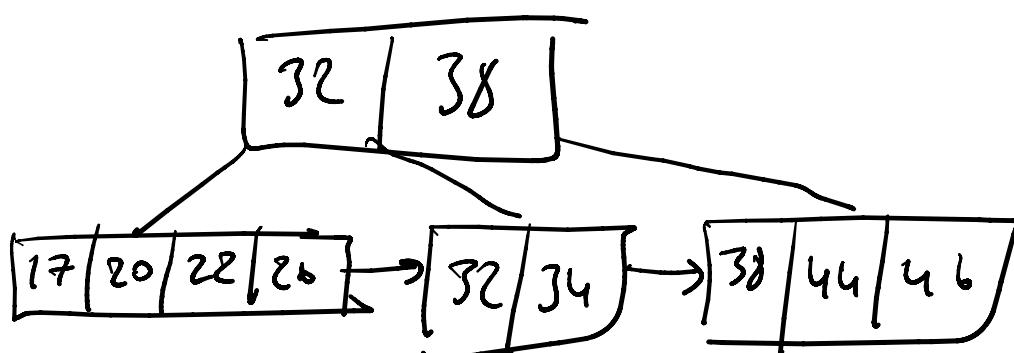
insert 46



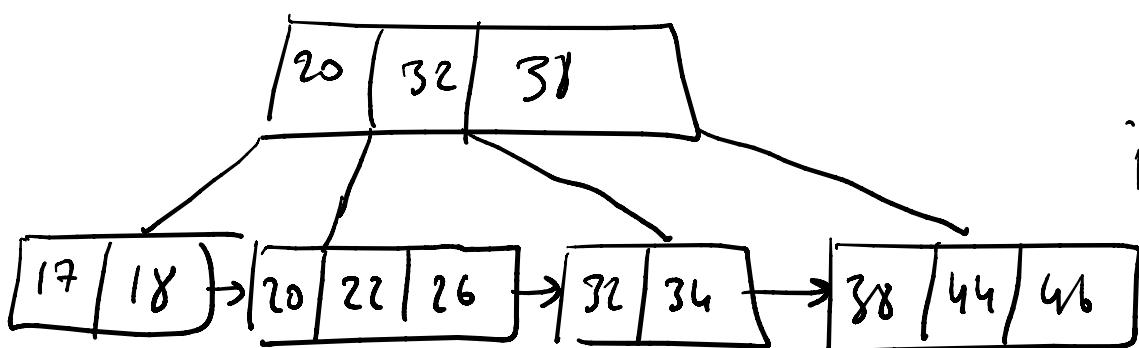
insert 17



insert 38



insert 26



insert 18

$$2) h(57) = 9 = 1001$$

$$h(28) = 12 = 1100$$

$$h(26) = 10 = 0110$$

$$h(98) = 2 = 0010$$

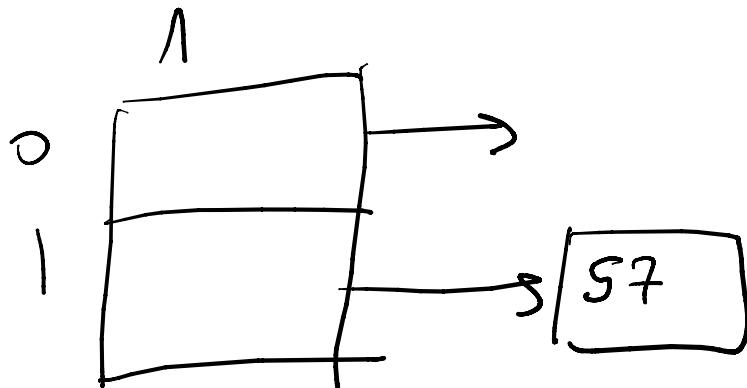
$$h(38) = 6 = 0110$$

$$h(79) = 15 = 1111$$

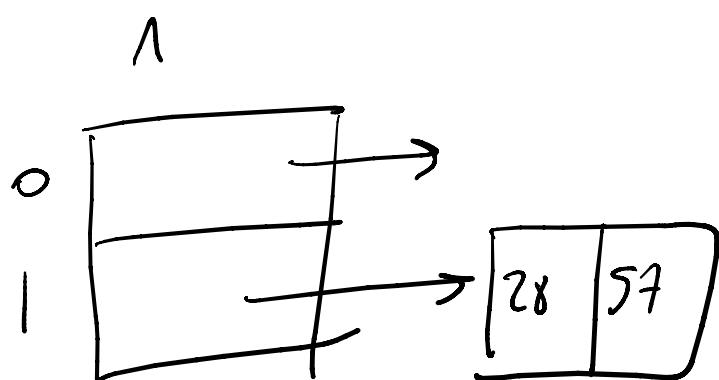
$$h(7) = 7 = 0111$$

$$h(109) = 13 = 1101$$

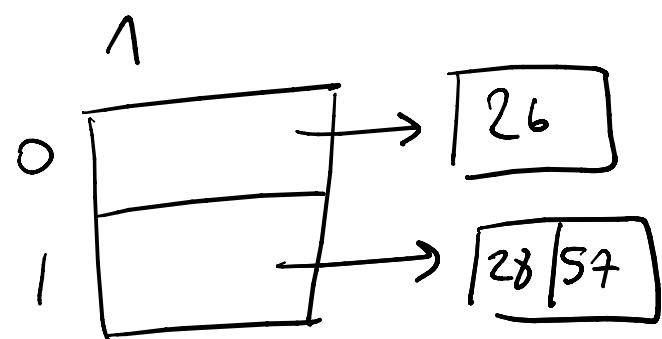
$$h(30) = 14 = 1110$$



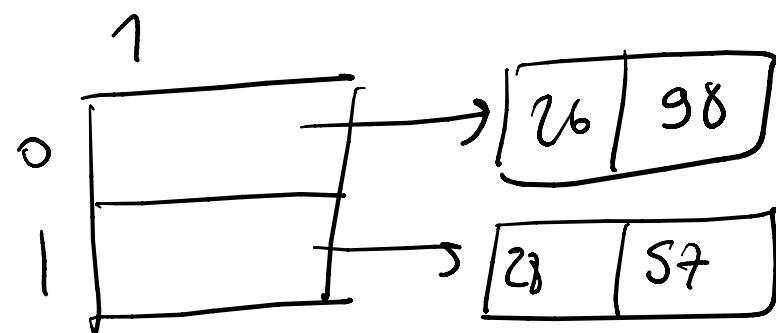
57



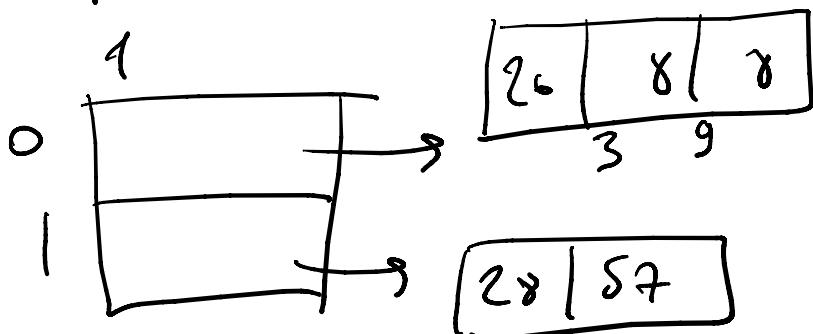
28



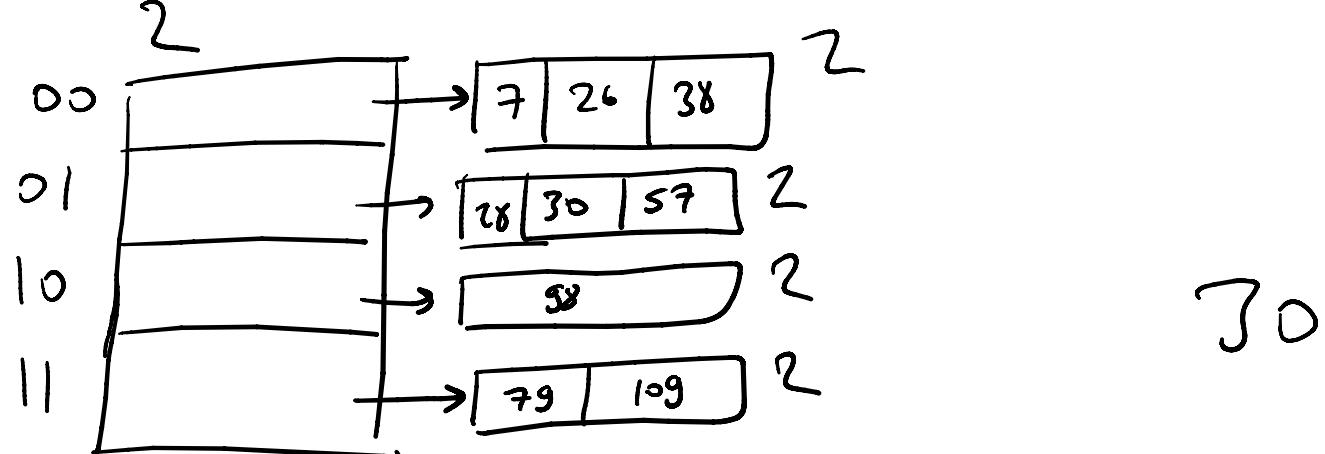
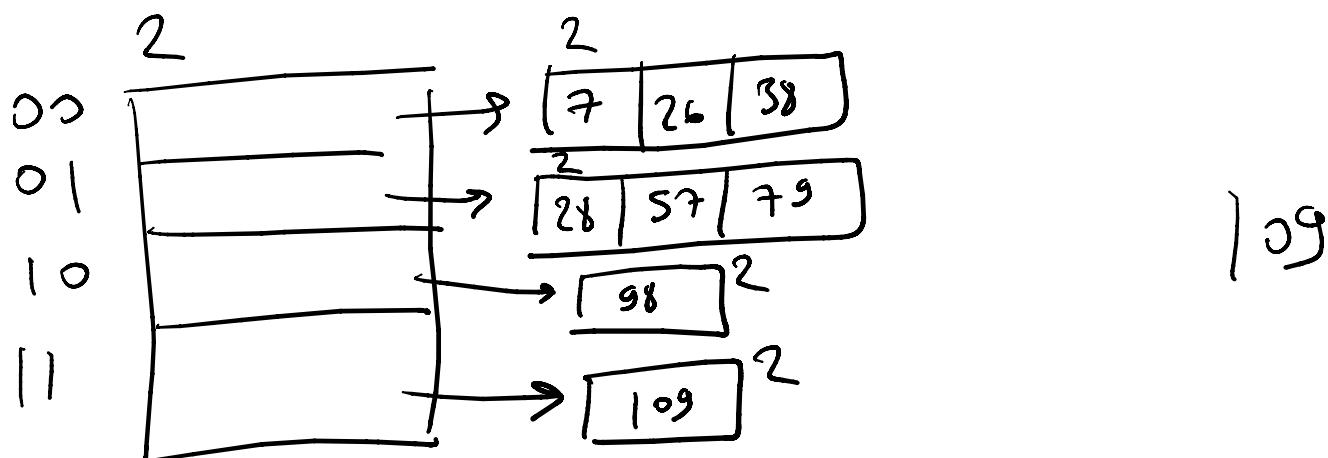
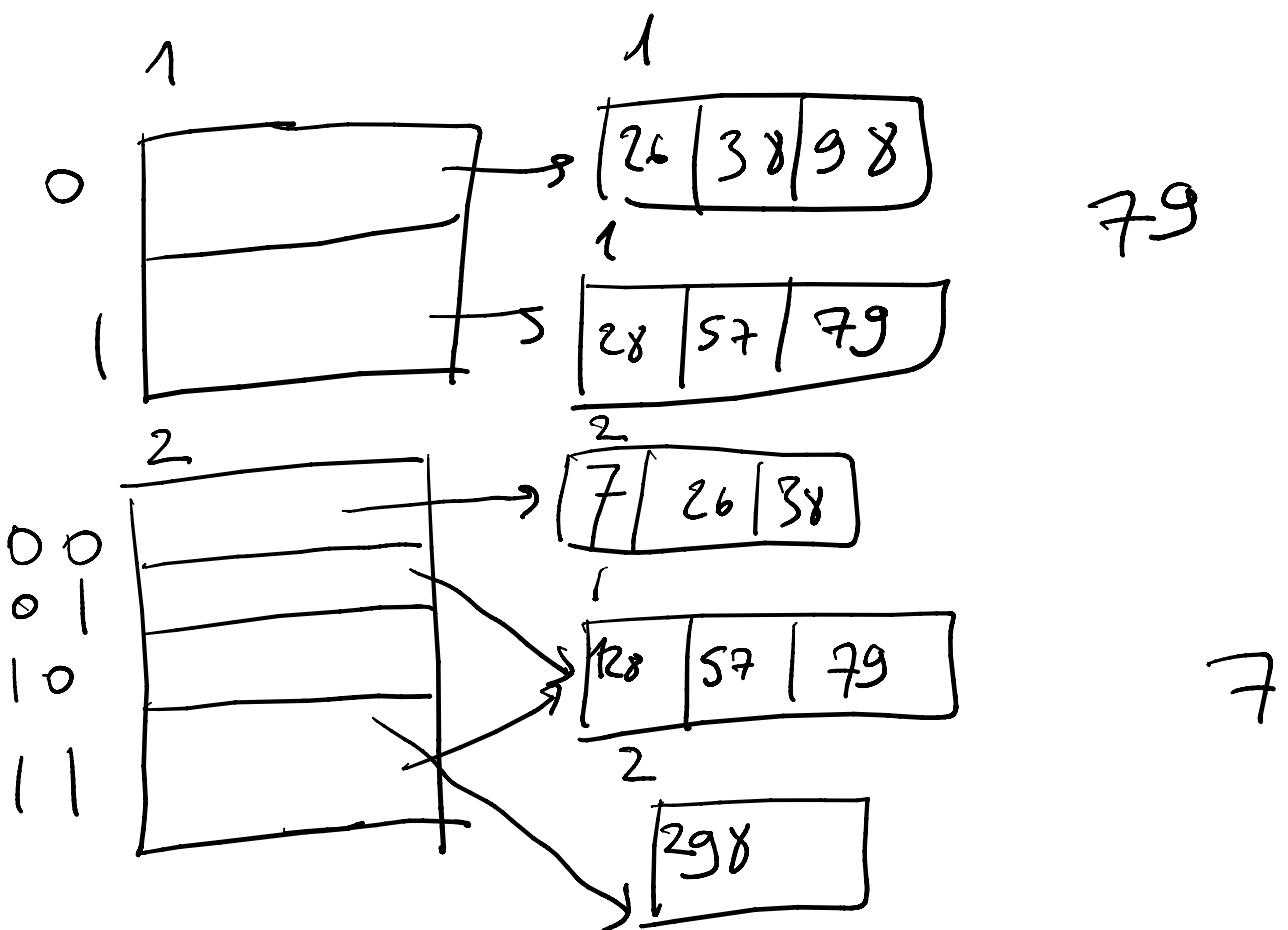
26



98



38



2-a) bucket splits! $\frac{1}{7}, \frac{10^9}{7}$
tangle to double! $\frac{1}{7}$

b) i) 2

~~5000/50~~

ii) 2

iii) 2

iv) 2

v) 2

3) a) $\log(N/B) = \log(100) = 2$ merge passes

b) $\log(100,000/B) = 2$

$$B = 1000$$