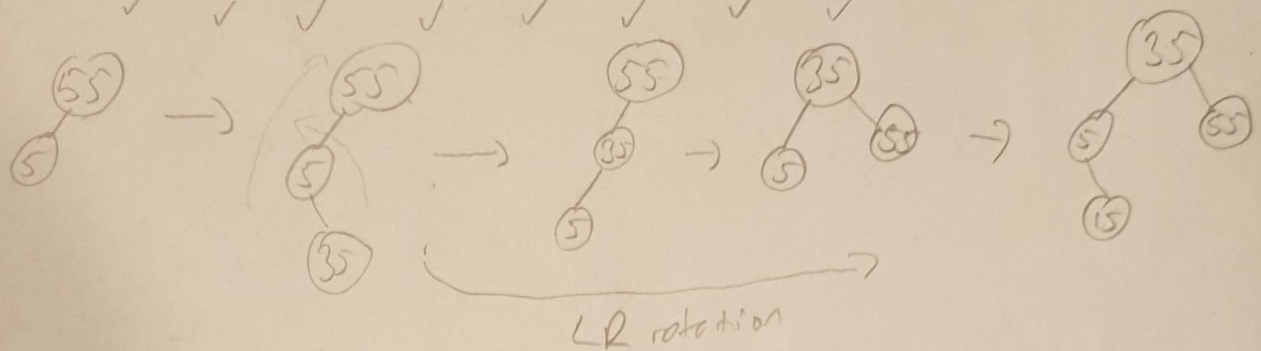
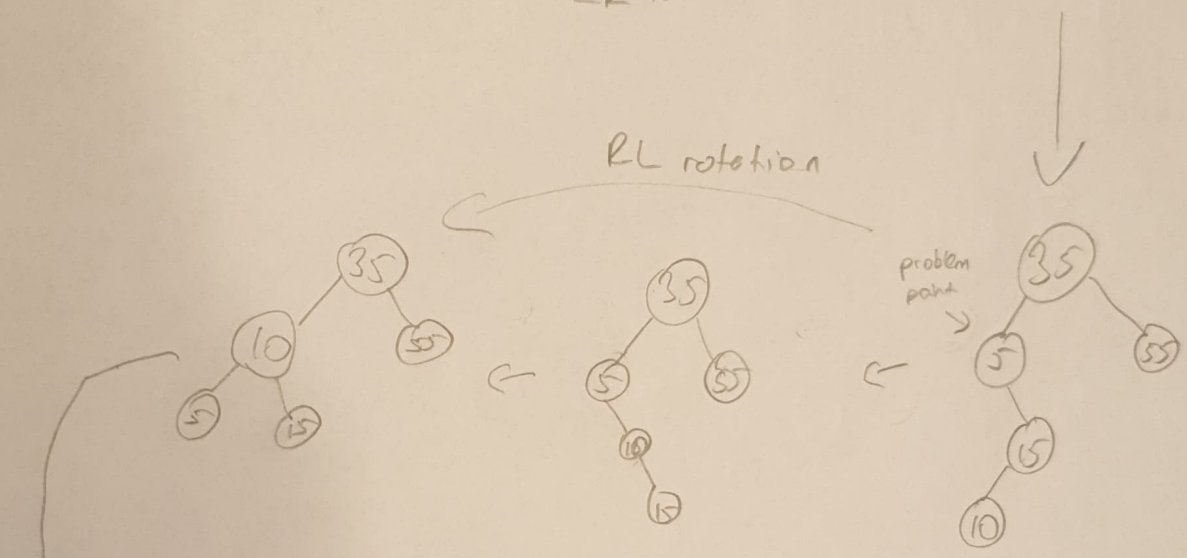
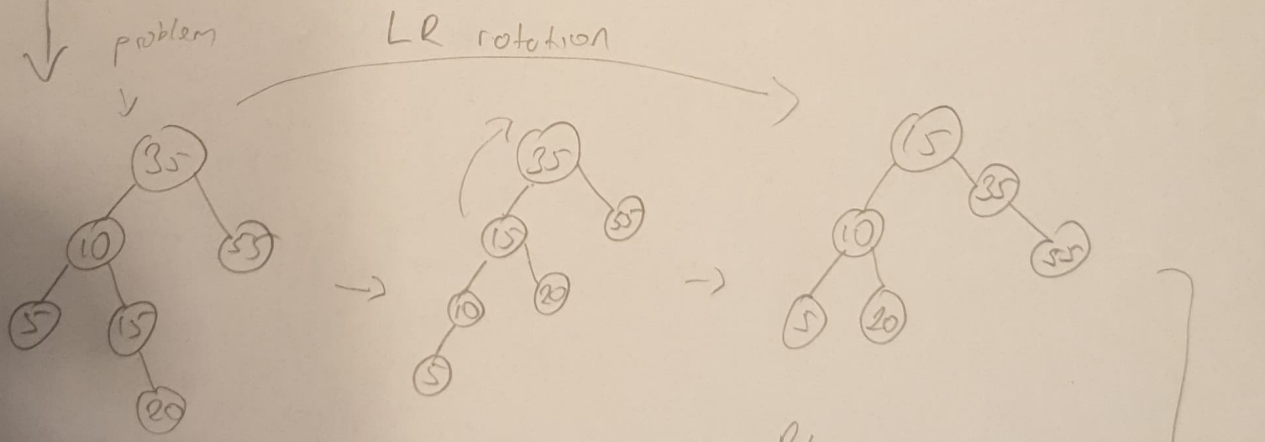
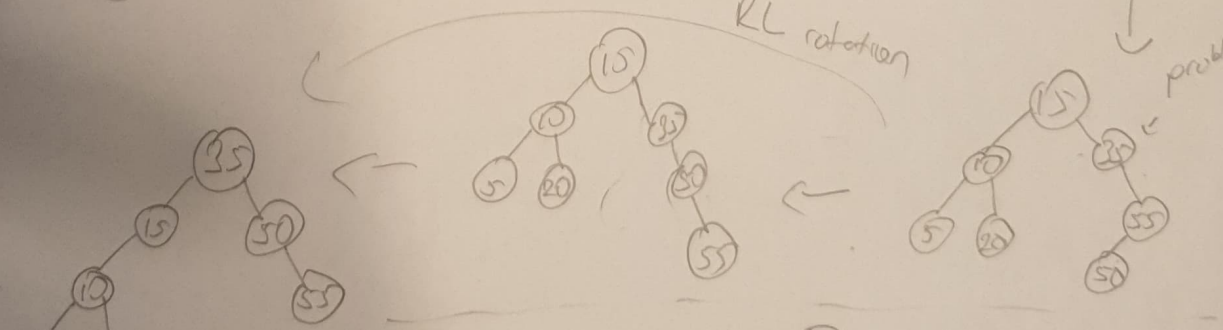
2) 55, 5, 35, 15, 10, 20, 50, 45









3)

$$m_{i,j} = \begin{cases} i^2 + 2j & \text{for } i = j \\ \cancel{i + j^2 \quad \text{for} \quad i < j} \end{cases}$$

for $i = j$;

$m_{1,1} = (1)^2 + 2(1) = 3$

$m_{2,2} = (2)^2 + 2(2) = 8$

$m_{3,3} = (3)^2 + 2(3) = 15$

$\vdots$

$m_{5,5} = (5)^2 + 2(5) = 35$

for $i = 1$ and j ++ ;

$m_{1,1} = (1)^2 + 2(1) = 3$

$m_{1,2} = (1)^2 + 2(2) = 5$

$m_{1,3} = (1)^2 + 2(3) = 7$

$\vdots$

$m_{1,5} = (1)^2 + 2(5) = 11$

for $j = 1$ and i++ gives the same numbers, for $i \neq j$, every answer is right!

so the formula is → $i^2 + 2j$

$i + 3j$ for $i < j$

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