

# Array-10

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## Single Non-Duplicate

{1, 1, 2, 3, 3, 4, 4, 8, 8}

$$n=9$$

$$l=0, \gamma = 8$$

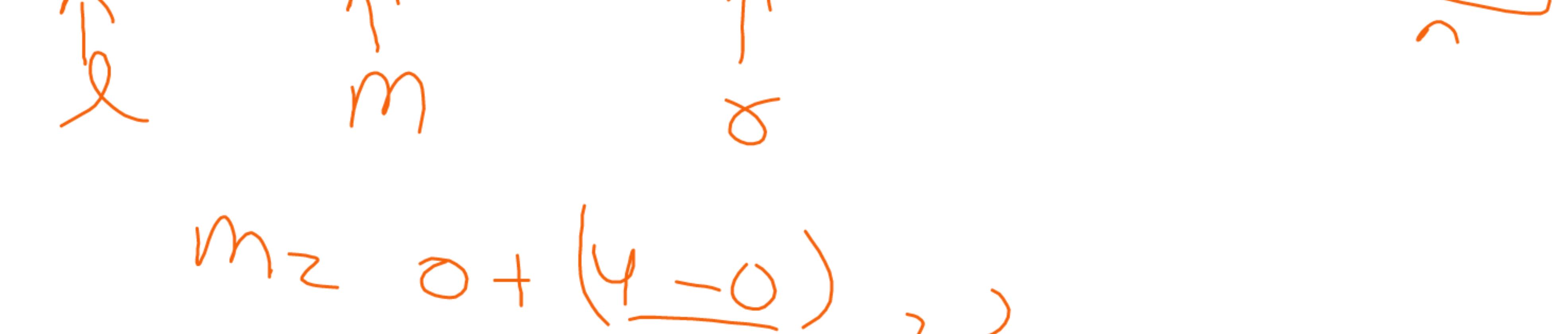
while ( $l < \gamma$ )

$$m = 0 + \frac{8-0}{2} \Rightarrow 4$$



$$m=4 \Rightarrow \text{even}$$

$[m] \neq [m+1] \Rightarrow \text{Single is in left} \Rightarrow \gamma = m$



$$m_2 = 0 + \frac{4-0}{2}, 2$$

$$m=2 \Rightarrow \text{even}$$

$m \neq m+1 \Rightarrow \text{single in left}$

$$\Rightarrow \gamma = m$$



$$m=1 \Rightarrow \text{odd}$$

$$m=m-1=0$$

So  $\text{mid} = \text{mid} + 1 \Rightarrow l = m + 2 = 0 + 2$



So  $l=\gamma$ , Return l  $\Rightarrow$  Return 2