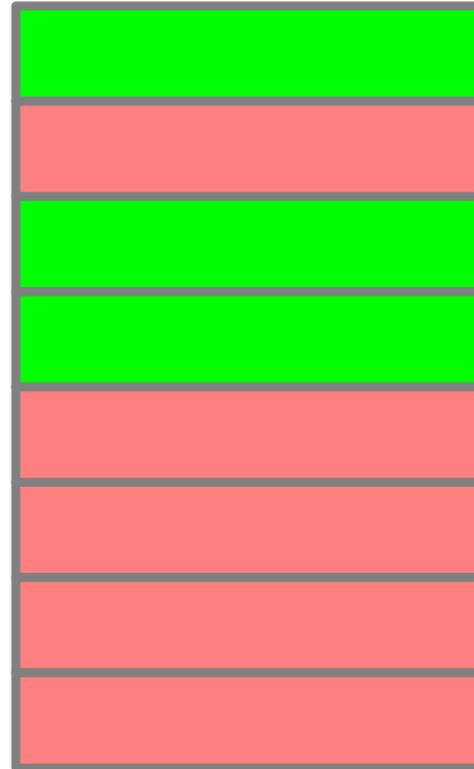


$$P@3 = 1/3$$

$$P@5 = 2/5$$

$$P@6 = 3/6$$

$$\text{MAP} = \frac{1}{3} \left(\frac{1}{3} + \frac{2}{5} + \frac{3}{6} \right) \\ \approx 0.41$$



$$P@1 = 1$$

$$P@3 = 2/3$$

$$P@4 = 3/4$$

$$\text{MAP} = \frac{1}{3} \left(1 + \frac{2}{3} + \frac{3}{4} \right) \\ \approx 0.81$$