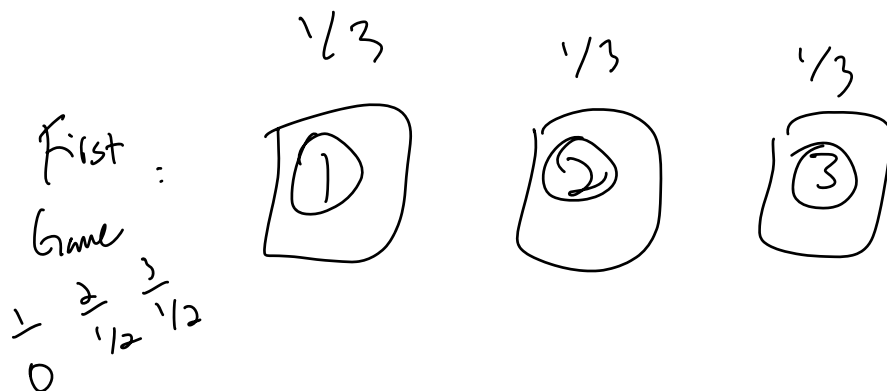


3/10 (moving to door b lose)



$P(\text{win})$

$\frac{1}{3}$

$P(1) =$
 $(\frac{1}{3})$

$P(1 | 1 = T \text{ or } \dots)$

$$P(1) = \left(\frac{1}{3}\right) \cdot 0 + \left(\frac{1}{3}\right) \cdot 1 + \left(\frac{1}{3}\right) \cdot 1 = \frac{2}{3}$$

$$P(2) = \left(\frac{1}{3}\right) \cdot \left(\frac{1}{2}\right) + \left(\frac{1}{3}\right) \cdot 0 + \left(\frac{1}{3}\right) \cdot 0 = \frac{1}{6}$$

$$P(3) = \left(\frac{1}{3}\right) \cdot \left(\frac{1}{2}\right) + \left(\frac{1}{3}\right) \cdot 0 + \left(\frac{1}{3}\right) \cdot 0 = \frac{1}{6}$$

$$P(1) = \left(\frac{2}{3}\right) \cdot 0 + \left(\frac{1}{6}\right) \cdot 1 + \left(\frac{1}{6}\right) \cdot 1 = \frac{2}{6} = \frac{1}{3}$$

$$P(2) = \left(\frac{2}{3}\right) \cdot \left(\frac{1}{2}\right) + \left(\frac{1}{6}\right) \cdot 0 + \left(\frac{1}{6}\right) \cdot 0 = \frac{1}{3}$$

$$P(3) = \left(\frac{2}{3}\right) \cdot \left(\frac{1}{2}\right) + \left(\frac{1}{6}\right) \cdot 0 + \left(\frac{1}{6}\right) \cdot 0 = \frac{1}{3}$$

$$P(2 \text{ wins} + 3 \text{ wins}) = 1 - P(1 \text{ win})$$

$$1 - \left(\frac{1}{3}\right) \cdot \left(\frac{2}{3}\right) \cdot \left(\frac{1}{3}\right)$$

$$\frac{2}{27}$$

$$1 - P(\text{lose}) = P(\text{win})$$

$$1 - \left(\frac{1}{3}\right)$$

$$\left(\frac{1}{3}\right) + \left(\frac{2}{3}\right) \cdot \left(\frac{2}{3}\right) +$$

$$\left(\frac{1}{3}\right) \cdot$$

$$1 - \frac{P(\text{win} + \text{win})}{2/3} =$$

$$\begin{aligned} (2/3) \cdot (1/3) \\ LLL &= (2/3) \cdot (2/3) \cdot 0 = 0 \\ LWL &= (2/3) \cdot (2/3) \cdot 1 = 4/9 \\ WLL &= (1/3) \cdot 1 \cdot 0 = 0 \\ LLW &= (2/3) \cdot (1/3) \cdot 1 = 2/9 \end{aligned} \quad \left. \vphantom{\begin{aligned} LLL \\ LWL \\ WLL \\ LLW \end{aligned}} \right\} = 6/9$$

$$P(WWW) = 1/3 \cdot 0 \cdot 1 = 0$$

$$P(WLW) = 1/3 \cdot 1 \cdot 1 = 1/3$$

$$P(LWW) = (2/3) \cdot (2/3) \cdot 0 = 0$$

$$1 - 6/9 = 3/9 = 1/3$$

$$1/3 \cdot 500 = 166.67$$

$$2/3 \cdot 0 = 0$$

$$5/6 \cdot 0 = 0$$

$$1/6 \cdot 500 = 83.33$$

1/3	1/3	1/3
①	②	③
①	②	③

$$(1/6)(+1000)$$