

## Flip four coins

- Let us flip four coins, independent, fair,  $X = \#$  of heads

$k$	$\mathbb{P}(X = k)$
0	$1/16$
1	$1/4$
2	$3/8$
3	$1/4$
4	$1/16$

- We have:

- So we can compute:

$$\begin{aligned}\mathbb{E}[X] &= 4 \cdot \frac{1}{16} + 3 \cdot \frac{1}{4} + 2 \cdot \frac{3}{8} + 1 \cdot \frac{1}{4} \\ &= \frac{1}{4} + \frac{3}{4} + \frac{3}{4} + \frac{1}{4} = 2.\end{aligned}$$