

$$\# \text{ distinct keys} = \# \text{ locks} = \binom{\text{num_bunnies}}{\text{num_rec} - 1}$$

$$\# \text{ keys-per-bunny} = \binom{\text{num_bunnies} - 1}{\text{num_rec} - 1}$$

$$\text{bunnies_per_key} = \text{bunnies_per_missing_key} = \text{num_bunnies} - \text{num_required} + 1$$