

Domácí úloha:

$$Y_i = \begin{cases} 1 & \dots \text{číslo „i“ bylo taženo} \\ 0 & \dots \text{jinak} \end{cases}$$

$$EX = \mathbb{E} \sum_{i=0}^{36} Y_i = \sum \mathbb{E} Y_i = \sum P(Y_i=1) = 37 \left(1 - \left(\frac{36}{37} \right)^{37} \right)$$

$$\begin{aligned} P(Y_i=1) &= 1 - P(Y_i=0) = 1 - \left(\frac{36}{37} \right)^{37} \\ &= \sum_{k=1}^{37} P(\text{„i“ vylosovalo } k\text{-n}) = \sum_{k=1}^{37} \binom{37}{k} \left(\frac{1}{37} \right)^k \left(\frac{36}{37} \right)^{37-k} \\ &= \underbrace{\left(\frac{1}{37} + \frac{36}{37} \right)^{37}}_{1^{37}} - \left(\frac{36}{37} \right)^{37} \end{aligned}$$

X_{40} .. testová statistika ... $T \in \mathbb{R}$

někdy $T(r)$, $r \in \mathbb{I} = \{r_1, \dots, r_n\}$
 $\uparrow \uparrow \dots \uparrow$

(X_i, Y_i)

$$Y_i = \exp\{\beta X_i\}$$

$$Z_i = \log Y_i = \beta X_i + \varepsilon_i$$

arg min $\sum_{i=1}^n (Z_i - \beta X_i)^2$
 $\beta \in \mathbb{R}$ $f(\beta)$

$$f'(\beta) \stackrel{!}{=} 0$$

