

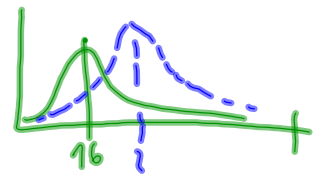
$2000 = m$
 $835 = (b)$
 $1:1$
 $H_0: p_0 = 0,5$
 $\bar{X} \sim N(p_0, \frac{p_0(1-p_0)}{m}) = p_0$
 $\bar{x} = \frac{835}{2000}$
 $= \frac{1}{m} \cdot (p_0 \cdot (1-p_0))$
 $|t| = \frac{|\bar{x} - p_0|}{\sqrt{\frac{p_0(1-p_0)}{m}}} > \Phi^{-1}(1 - \alpha/2) = 1,96$
 $5\% \quad 1\% \quad \bar{x} = 0,4175$
 $\left| \frac{0,4175 - 0,5}{\sqrt{\frac{0,4175 \cdot (1-0,4175)}{2000}}} \right| > 1,96$
 $7,5 > 1,96$

$B_i(1, p_0)$
 $E\bar{X} = \frac{1}{m} E(\sum x_i)$
 $= \frac{1}{m} \sum_{i=1}^m E(x_i)$
 $D(kX) = k^2 D(X)$
 $E\bar{X} = 1 \cdot p_0$
 $D\bar{X} = 1 \cdot p_0 \cdot (1-p_0)$
 $D\bar{X} = D(\frac{\sum x_i}{m})$
 $D\bar{X} = \frac{1}{m^2} D(\sum x_i)$
 $D\bar{X} = \frac{1}{m^2} \sum_{i=1}^m D(x_i)$
 $D\bar{X} = \frac{1}{m^2} \cdot m \cdot p_0 \cdot (1-p_0)$
 $D\bar{X} = \frac{p_0 \cdot (1-p_0)}{m}$
 $B = \frac{1}{2}$

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$n = 16$
 $k = 100\ 000$
 $\alpha = 5\%$
 $2 \times n_j$'s
 $b = 2$
 $H_0: \text{LÉK VEZ. RIZIKO}$

$B_i(k, p)$
 $p = \frac{m}{2}$
 $E\bar{X} = k \cdot p$
 $D\bar{X} = k \cdot p \cdot (1-p)$
 $\frac{E\bar{X} - k \cdot p}{\sqrt{D\bar{X}}} = \Phi^{-1}(0,95)$
 $\frac{k \cdot p - k \cdot p}{\sqrt{k \cdot p \cdot (1-p)}} = \sqrt{\frac{k^2 p^2}{k \cdot p \cdot (1-p)}} = \sqrt{k \cdot p} = 16$
 $\Phi^{-1}(0,95) = 1,645$
 $k = \frac{1,645^2}{p} = 16913$
 $\frac{16913}{100000} \cdot 16 = 3$
 $1 - \sum_{k=0}^3 \binom{16913}{k} p^k \cdot (1-p)^{16913-k} > 0,95$
 pro $k \geq 6$



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$$n = 10$$

$$U_m = 5V$$

$$\bar{X} = 5,3V$$

$$S_x = 0,3V$$

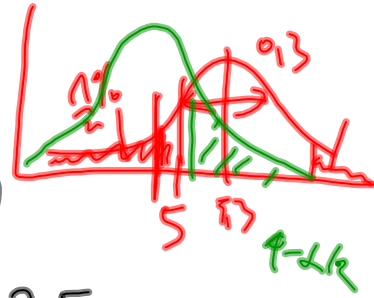
$$\alpha = 1\%$$

$$t = \frac{\bar{X} - U_m}{S_x} \sqrt{n}$$

$$|t| > q_{t(m-1)} \left(1 - \frac{\alpha}{2}\right)$$

$$\frac{5,3 - 5}{0,3} \sqrt{10} > 3,25$$

$$3,16 \not> 3,25$$



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$$n = 9$$

$$\Delta = \text{teplota 2} - \text{teplota 1}$$

$$\bar{\Delta} =$$

$$S_{\Delta} =$$

$$T = \left| \frac{\bar{\Delta} - 0}{S_{\Delta}} \cdot \sqrt{n} \right| > q_{t(n-1)} \left(1 - \frac{\alpha}{2}\right)$$

$$|-1,4142| \not> 2,306 \Rightarrow \text{NEZ.}$$

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