FORMULARIO INTERVALOS DE CONFIAZA

Media una poblacion

$$IC_\mu : \bar{x} \pm z_{\alpha/2} \frac{\sigma}{\sqrt{n}} \quad (1)$$

$$IC_\mu : \bar{x} \pm z_{\alpha/2} \frac{s}{\sqrt{n}} \quad (2)$$

$$IC_\mu : \bar{x} \pm t_{\alpha/2} \frac{s}{\sqrt{n}} \quad \text{con } v = n-1 \quad (3)$$

$$n = \frac{z^2_{\alpha/2}\sigma^2}{e^2} \quad (4)$$

$$n = \frac{n_o N}{n_o + N - 1} \quad (5)$$

$$IC_\mu : \bar{x} \pm t_{\alpha/2} \frac{s}{\sqrt{n}} \sqrt{\frac{N-n}{N-1}} \quad \text{con } v = n-1 \quad (6)$$

Proporcion una poblacion

$$IC_p : \widehat{p} \pm z_{\alpha/2} \sqrt{\frac{\widehat{p}(1-\widehat{p})}{n}} \quad (7)$$

$$n = \frac{z^2 p(1-p)}{e^2} \quad (8)$$

$$n = \frac{Z^2_{\alpha/2} \times 0{,}50(1-0{,}50)}{e^2}, \text{ con varianza max} \quad (9)$$

Varianza una poblacion

$$IC_{\sigma^2} : \left(\frac{(n-1)S^2}{\chi^2_{\alpha/2}}; \frac{(n-1)S^2}{\chi^2_{1-\alpha/2}} \right) \quad \text{con } v = n-1 \quad (10)$$

Diferencia medias poblaciones pareadas

$$IC_{d=x_1-x_2} : \bar{d} \pm t_{\alpha/2} \frac{s_d}{\sqrt{n}} \quad \text{con } v = n-1 \quad (11)$$

Diferencia medias poblaciones independientes suponiendo varianzas iguales

$$(\bar{x_1} - \bar{x_2}) \pm t_{\alpha/2} \;\; s_p \sqrt{\frac{1}{n_1} + \frac{1}{n_2}} \quad (12)$$

donde s_p^2 es la varianza comun

$$s_p^2 = \frac{(n_1-1)s_1^2 + (n_2-1)s_2^2}{n_1 + n_2 - 2} \text{ y } v = n_1 + n_2 - 2$$

Diferencia medias poblaciones independientes con varianzas diferentes

$$(\bar{x_1} - \bar{x_2}) \pm t_{\alpha/2} \sqrt{\frac{s_1^2}{n_1} + \frac{s_2^2}{n_2}} \quad (13)$$

$$v = \frac{(s_1^2/n_1 + s_2^2/n_2)^2}{\left[(s_1^2/n_1)^2/(n_1-1)\right] + \left[(s_2^2/n_2)^2/(n_2-1)\right]}$$

Diferencia de proporciones

$$(\widehat{p_1} - \widehat{p_2}) \pm z_{\alpha/2} \sqrt{\frac{\widehat{p_1}(1-\widehat{p_1})}{n_1} + \frac{\widehat{p_2}(1-\widehat{p_2})}{n_2}} \quad (14)$$

Razon de Varianzas

$$\left(\frac{s_1^2}{s_2^2} \frac{1}{f_{\alpha/2}(v_1 v_2)}; s_1^2 s_2^2 \frac{1}{f_{\alpha/2}(v_2 v_1)} \right) \quad (15)$$

$$f_{\alpha(v_1,v_2)} = 1/f_{1-\alpha(v_2,v_1)}$$

Codigo R

Parametro	Funcion en R
μ	t.test(x, coef.level= $1-\alpha$)$conf.int
p	prop.test(x,n,p=p_o, coef.level=$1-\alpha$)
$\mu_1 - \mu_2$	t.test(datos1,datos2, paired=T)
	t.test(datos1 datos2, var.equal=T)
	t.test(datos1 datos2, var.equal=F)
σ_1^2/σ_2^2	var-test(datos1 datos2)
$p_1 - p_2$	prop.text(c(x_1,x_2), c(n_1,n_2))