ESTIMACIONES POR INTERVALO DE CONFIANZA

CASO	INTERVALO DE CONFIANZA	TAMAÑO DE MUESTRA	NOTAS
1	$P\left(\bar{x} - z_{1-\alpha/2} \dfrac{\sigma}{\sqrt{n}} < \mu < \bar{x} + z_{1-\alpha/2} \dfrac{\sigma}{\sqrt{n}} \right) = 1-\alpha$	$n = \left(\dfrac{z_{1-\alpha/2}\sigma}{E} \right)^2$	$n = \dfrac{Nz^2_{1-\alpha/2}\sigma^2}{E^2(N-1) + z^2_{1-\alpha/2}\sigma^2}$
2	$P\left(\bar{x} - t_{1-\alpha/2} \dfrac{s}{\sqrt{n}} < \mu < \bar{x} + t_{1-\alpha/2} \dfrac{s}{\sqrt{n}} \right) = 1-\alpha$	------	
3	$P\left(\bar{x}_1 - \bar{x}_2 - z_{1-\alpha/2}\sqrt{\dfrac{\sigma_1^2}{n_1} + \dfrac{\sigma_2^2}{n_2}} < \mu_1 - \mu_2 < \ldots.. \right)$	------	
4	$P\left(\bar{x}_1 - \bar{x}_2 - t_{1-\alpha/2} s_p \sqrt{\dfrac{1}{n_1} + \dfrac{1}{n_2}} < \mu_1 - \mu_2 < \ldots.. \right)$	------	$s_p = \sqrt{\dfrac{s_1^2(n_1-1) + s_2^2(n_2-1)}{n_1+n_2-2}}$
5	$P\left(\bar{x}_1 - \bar{x}_2 - t_{1-\alpha/2}\sqrt{\dfrac{s_1^2}{n_1} + \dfrac{s_2^2}{n_2}} < \mu_1 - \mu_2 < \ldots.. \right)$	------	
6	$P\left(\bar{D} - t_{1-\alpha/2} \dfrac{s_D}{\sqrt{n}} < \mu_1 - \mu_2 < \bar{D} + t_{1-\alpha/2} \dfrac{s_D}{\sqrt{n}} \right) = 1-\alpha$	------	
7	$P\left(\hat{p} - z_{1-\alpha/2}\sqrt{\dfrac{\hat{p}\hat{q}}{n}} < P < \hat{p} + z_{1-\alpha/2}\sqrt{\dfrac{\hat{p}\hat{q}}{n}} \right) = 1-\alpha$	$n = \dfrac{z^2_{1-\alpha/2}\hat{p}\hat{q}}{E^2}$	$n = \dfrac{Nz^2_{1-\alpha/2}\hat{p}\hat{q}}{E^2(N-1) + z^2_{1-\alpha/2}\hat{p}\hat{q}}$
8	$P\left(\hat{p}_1 - \hat{p}_2 - z_{1-\alpha/2}\sqrt{\dfrac{\hat{p}_1\hat{q}_1}{n_1} + \dfrac{\hat{p}_2\hat{q}_2}{n_2}} < P_1 - P_2 < \ldots.. \right)$	------	$\hat{p}_1 = \dfrac{x_1}{n_1},\ \hat{p}_2 = \dfrac{x_2}{n_2}$
9	$P\left(\dfrac{(n-1)s^2}{\chi^2_{\alpha/2}} < \sigma^2 < \dfrac{(n-1)s^2}{\chi^2_{1-\alpha/2}} \right) = 1-\alpha$	------	
10	$P\left(\dfrac{s_1^2}{s_2^2 F_{\alpha/2}} < \dfrac{\sigma_1^2}{\sigma_2^2} < \dfrac{s_1^2}{s_2^2 F_{1-\alpha/2}} \right) = 1-\alpha$	------	$F_{\alpha/2,\nu_1,\nu_2} = \dfrac{1}{F_{1-\alpha/2,\nu_2,\nu_1}}$

PRUEBA ESTADÍSTICA DE HIPÓTESIS

CASO	HIPÓTESIS A CONTRASTAR	SUPUESTOS	ESTADÍGRAFO DE CONTRASTE	GRADOS DE LIBERTAD
1	$H_0 : \mu = \mu_0$	σ conocida	$z = \dfrac{\overline{x} - \mu_0}{\dfrac{\sigma}{\sqrt{n}}}$	------
2	$H_0 : \mu = \mu_0$	σ desconocida	$t = \dfrac{\overline{x} - \mu_0}{\dfrac{s}{\sqrt{n}}}$	$\nu = n - 1$
3	$H_0 :\ \mu_1 - \mu_2 = \Delta_0$	Muestras independientes σ_1^2 y σ_2^2 conocidas	$z = \dfrac{\overline{x}_1 - \overline{x}_2 - \Delta_0}{\sqrt{\dfrac{\sigma_1^2}{n_1} + \dfrac{\sigma_2^2}{n_2}}}$	------
4	$H_0 :\ \mu_1 - \mu_2 = \Delta_0$	Muestras independientes σ_1^2 y σ_2^2 desconocidas e iguales	$t = \dfrac{\overline{x}_1 - \overline{x}_2 - \Delta_0}{s_p \sqrt{\dfrac{1}{n_1} + \dfrac{1}{n_2}}}$	$\nu = n_1 - n_2 - 2$
5	$H_0 :\ \mu_1 - \mu_2 = \Delta_0$	Muestras independientes σ_1^2 y σ_2^2 desconocidas y diferentes	$t = \dfrac{\overline{x}_1 - \overline{x}_2 - \Delta_0}{\sqrt{\dfrac{s_1^2}{n_1} + \dfrac{s_2^2}{n_2}}}$	$\nu = \dfrac{\left(\dfrac{s_1^2}{n_1} + \dfrac{s_2^2}{n_2}\right)^2}{\dfrac{\left(\dfrac{s_1^2}{n_1}\right)^2}{n_1 + 1} + \dfrac{\left(\dfrac{s_2^2}{n_2}\right)^2}{n_2 + 1}} - 2$
6	$H_0 :\ \mu_1 - \mu_2 = \Delta_0$	Muestras dependientes o apareadas	$t = \dfrac{\overline{D} - \Delta_0}{\dfrac{s_D}{\sqrt{n}}}$	$\nu = n - 1$
7	$H_0 : P = P_0$	------	$z = \dfrac{\hat{p} - P_0}{\sqrt{\dfrac{P_0(1 - P_0)}{n}}}$	$\hat{p} = \dfrac{x}{n}$
8	$H_0 :\ P_1 - P_2 = \Delta_0$	------	$z = \dfrac{\hat{p}_1 - \hat{p}_2 - \Delta_0}{\sqrt{\overline{pq}\left(\dfrac{1}{n_1} + \dfrac{1}{n_2}\right)}}$	$\overline{p} = \dfrac{\hat{p}_1 n_1 + \hat{p}_2 n_2}{n_1 + n_2}$
9	$H_0 : \sigma^2 = \sigma^2{}_0$	------	$\chi^2 = \dfrac{(n-1)s^2}{\sigma_0^2}$	$\nu = n - 1$
10	$H_0 : \dfrac{\sigma_1^2}{\sigma_2^2} = R_0$	------	$F = \dfrac{s_1^2}{s_2^2 R_0}$	$\nu_1 = n_1 - 1$ $\nu_2 = n_2 - 1$