RESUMEN DE PROCEDIMIENTOS PARA LA PRUEBA DE HIPÓTESIS.

Caso	Hipótesis nula	Estadístico de prueba	Hipótesis alternativa	Criterio de rechazo
1	$H_0 : \mu = \mu_0$ σ^2 conocida distribución normal	$Z = \dfrac{\overline{X} - \mu_0}{\sigma / \sqrt{n}}$	$H_1 : \mu \neq \mu_0$ $H_1 : \mu > \mu_0$ $H_1 : \mu < \mu_0$	$\lvert Z \rvert > z_{\alpha/2}$ $Z > z_\alpha$ $Z < -z_\alpha$
2	$H_0 : \mu = \mu_0$ σ^2 desconocida distribución normal	$T = \dfrac{\overline{X} - \mu_0}{s / \sqrt{n}}$	$H_1 : \mu \neq \mu_0$ $H_1 : \mu > \mu_0$ $H_1 : \mu < \mu_0$	$\lvert T \rvert > t_{\alpha/2, n-1}$ $T > t_{\alpha, n-1}$ $T < -t_{\alpha, n-1}$
3	$H_0 : \mu = \mu_0$ σ^2 desconocida distribución NO NECESARIAMENTE normal muestra grande	$T = \dfrac{\overline{X} - \mu_0}{s / \sqrt{n}}$	$H_1 : \mu \neq \mu_0$ $H_1 : \mu > \mu_0$ $H_1 : \mu < \mu_0$	$\lvert Z \rvert > z_{\alpha/2}$ $Z > z_\alpha$ $Z < -z_\alpha$
4	$H_0 : \mu_1 - \mu_2 = \Delta_0$ $\sigma_1^{\ 2}, \sigma_2^{\ 2}$ conocidas distribuciones normales	$Z = \dfrac{\overline{X}_1 - \overline{X}_2 - \Delta_0}{\sqrt{\dfrac{\sigma_1^2}{n_1} + \dfrac{\sigma_2^2}{n_2}}}$	$H_1 : \mu_1 - \mu_2 \neq \Delta_0$ $H_1 : \mu_1 - \mu_2 > \Delta_0$ $H_1 : \mu_1 - \mu_2 < \Delta_0$	$\lvert Z \rvert > z_{\alpha/2}$ $Z > z_\alpha$ $Z < -z_\alpha$
5	$H_0 : \mu_1 - \mu_2 = \Delta_0$ $\sigma_1^{\ 2}, \sigma_2^{\ 2}$ conocidas distribuciones NO NECESARIAMENTE normales muestras grandes	$Z = \dfrac{\overline{X}_1 - \overline{X}_2 - \Delta_0}{\sqrt{\dfrac{S_1^2}{n_1} + \dfrac{S_2^2}{n_2}}}$	$H_1 : \mu_1 - \mu_2 \neq \Delta_0$ $H_1 : \mu_1 - \mu_2 > \Delta_0$ $H_1 : \mu_1 - \mu_2 < \Delta_0$	$\lvert Z \rvert > z_{\alpha/2}$ $Z > z_\alpha$ $Z < -z_\alpha$
6	$H_0 : \mu_1 - \mu_2 = \Delta_0$ $\sigma_1^{\ 2} = \sigma_2^{\ 2}$ desconocida distribuciones normales	$T = \dfrac{\vec{X}_1 - \overline{X}_2 - \Delta_0}{S_p \sqrt{\dfrac{1}{n_1} + \dfrac{1}{n_2}}}$	$H_1 : \mu_1 - \mu_2 \neq \Delta_0$ $H_1 : \mu_1 - \mu_2 > \Delta_0$ $H_1 : \mu_1 - \mu_2 < \Delta_0$	$\lvert T \rvert > t_{\alpha/2, n_1+n_2-2}$ $T > t_{\alpha, n_1+n_2-2}$ $T < -t_{\alpha, n_1+n_2-2}$

7	$H_0: \mu_1 - \mu_2 = \Delta_0$ ${\sigma_1}^2 \neq {\sigma_2}^2$ desconocidas distribuciones normales	$T^* = \dfrac{\overline{X}_1 - \overline{X}_2 - \Delta_0}{\sqrt{\dfrac{S_1^2}{n_1} + \dfrac{S_2^2}{n_2}}}$ $\nu = \dfrac{\left(S_1^2/n_1 + S_2^2/n_2\right)^2}{\dfrac{\left(S_1^1/n_1\right)^2}{n_1 - 1} + \dfrac{\left(S_2^2/n_2\right)^2}{n_2 - 1}}$	$H_1: \mu_1 - \mu_2 \neq \Delta_0$ $H_1: \mu_1 - \mu_2 > \Delta_0$ $H_1: \mu_1 - \mu_2 < \Delta_0$	$\lvert T^* \rvert > t_{\alpha/2, \nu}$ $T^* > t_{\alpha, \nu}$ $T^* < -t_{\alpha, \nu}$
8	**Datos pareados** $H_0: \mu_1 - \mu_2 = \Delta_0$ la diferencia de las muestras tiene distribución normal	$T = \dfrac{\overline{D} - \Delta_0}{S_D / \sqrt{n}}$	$H_1: \mu_1 - \mu_2 \neq \Delta_0$ $H_1: \mu_1 - \mu_2 > \Delta_0$ $H_1: \mu_1 - \mu_2 < \Delta_0$	$\lvert T \rvert > t_{\alpha/2, n-1}$ $T > t_{\alpha, n-1}$ $T < -t_{\alpha, n-1}$
9	$H_0: \sigma^2 = \sigma_0^2$ distribución normal	$X = \dfrac{(n-1)S^2}{{\sigma_0}^2}$	$H_1: \sigma^2 \neq \sigma_0^2$ $H_1: \sigma^2 > \sigma_0^2$ $H_1: \sigma^2 < \sigma_0^2$	$X > \chi^2_{\alpha/2, n-1}$ ó $X < \chi^2_{1-\alpha/2, n-1}$ $X > \chi^2_{\alpha, n-1}$ $X < \chi^2_{1-\alpha, n-1}$
10	$H_0: {\sigma_1}^2 = \sigma_2^2$ distribuciones normales	$F = \dfrac{S_1^2}{S_2^2}$	$H_1: {\sigma_1}^2 \neq \sigma_2^2$ $H_1: {\sigma_1}^2 > \sigma_2^2$ $H_1: {\sigma_1}^2 < \sigma_2^2$	$F > f_{\alpha/2, n_1-1, n_2-1}$ ó $F < f_{1-\alpha/2, n_1-1, n_2-1}$ $F > f_{\alpha, n_1-1, n_2-1}$ $F < f_{1-\alpha, n_1-1, n_2-1}$
11	$H_0: p = p_0$ muestra grande	$Z = \dfrac{\hat{P} - p_0}{\sqrt{\dfrac{p_0(1-p_0)}{n}}}$	$H_1: p \neq p_0$ $H_1: p > p_0$ $H_1: p < p_0$	$\lvert Z \rvert > z_{\alpha/2}$ $Z > z_\alpha$ $Z < -z_\alpha$
12	$H_0: p_1 - p_2 = 0$ muestras grandes	$Z = \dfrac{\hat{P}_1 - \hat{P}_2}{\sqrt{\hat{P}(1-\hat{P})\left(\dfrac{1}{n_1} + \dfrac{1}{n_2}\right)}}$	$H_1: p_1 - p_2 \neq 0$ $H_1: p_1 - p_2 > 0$ $H_1: p_1 - p_2 < 0$	$\lvert Z \rvert > z_{\alpha/2}$ $Z > z_\alpha$ $Z < -z_\alpha$