

KİTLE PARAMETRESİ μ İÇİN HİPOTEZ TESTLERİ VE $\%(1-\alpha)\times 100$ GÜVEN ARALIKLARI

| Yokluk Hipotezi: H_0 | Varsayım | Test İstatistiği | Alternatif Hipotez: H_1 | Kritik (Red) Bölge | $\%(1-\alpha)\times 100$ Güven Aralıkları |
|--|---|---|---------------------------|--------------------------|---|
| $\mu = \mu_0$ | σ biliniyor | $Z_t = \frac{\bar{x} - \mu_0}{\sigma / \sqrt{n}}$ | $\mu < \mu_0$ | $Z_t < -z_{\alpha}^*$ | $\bar{x} \pm z_{1-\frac{\alpha}{2}}^* \frac{\sigma}{\sqrt{n}}$ |
| | | | $\mu > \mu_0$ | $Z_t > z_{\alpha}^*$ | |
| | | | $\mu \neq \mu_0$ | $ Z_t > z_{\alpha/2}^*$ | |
| $\mu = \mu_0$ | σ bilinmiyor | $T_t = \frac{\bar{x} - \mu_0}{s / \sqrt{n}}; sd = n - 1$ | $\mu < \mu_0$ | $T_t < -t_{\alpha}^*$ | $\bar{x} \pm t_{\frac{\alpha}{2}}^* \frac{s}{\sqrt{n}}$ |
| | | | $\mu > \mu_0$ | $T_t > t_{\alpha}^*$ | |
| | | | $\mu \neq \mu_0$ | $ T_t > t_{\alpha/2}^*$ | |
| $\mu_1 - \mu_2 = d_0$ | σ_1 ve σ_2 biliniyor | $Z_t = \frac{(\bar{x}_1 - \bar{x}_2) - d_0}{\sqrt{(\sigma_1^2 / n_1) + (\sigma_2^2 / n_2)}}$ | $\mu_1 - \mu_2 < d_0$ | $Z_t < -z_{\alpha}^*$ | $(\bar{x}_1 - \bar{x}_2) \pm z_{1-\frac{\alpha}{2}}^* \sqrt{\left(\frac{\sigma_1^2}{n_1}\right) + \left(\frac{\sigma_2^2}{n_2}\right)}$ |
| | | | $\mu_1 - \mu_2 > d_0$ | $Z_t > z_{\alpha}^*$ | |
| | | | $\mu_1 - \mu_2 \neq d_0$ | $ Z_t > z_{\alpha/2}^*$ | |
| $\mu_1 - \mu_2 = d_0$ | σ_1 ve σ_2 bilinmiyor $\sigma_1 = \sigma_2$ | $T_t = \frac{(\bar{x}_1 - \bar{x}_2) - d_0}{s_p \sqrt{(1/n_1) + (1/n_2)}};$ $sd = n_1 + n_2 - 2$ $s_p^2 = \frac{(n_1 - 1)s_1^2 + (n_2 - 1)s_2^2}{n_1 + n_2 - 2}$ | $\mu_1 - \mu_2 < d_0$ | $T_t < -t_{\alpha}^*$ | $(\bar{x}_1 - \bar{x}_2) \pm t_{\frac{\alpha}{2}}^* s_p \sqrt{\frac{1}{n_1} + \frac{1}{n_2}}$ |
| | | | $\mu_1 - \mu_2 > d_0$ | $T_t > t_{\alpha}^*$ | |
| | | | $\mu_1 - \mu_2 \neq d_0$ | $ T_t > t_{\alpha/2}^*$ | |
| $\mu_1 - \mu_2 = d_0$ | σ_1 ve σ_2 bilinmiyor $\sigma_1 \neq \sigma_2$ | $T_t = \frac{(\bar{x}_1 - \bar{x}_2) - d_0}{\sqrt{(s_1^2 / n_1) + (s_2^2 / n_2)}}$ $sd = \frac{\left\{ (s_1^2 / n_1) + (s_2^2 / n_2) \right\}^2}{\frac{(s_1^2 / n_1)^2}{n_1 - 1} + \frac{(s_2^2 / n_2)^2}{n_2 - 1}}$ | $\mu_1 - \mu_2 < d_0$ | $T_t < -t_{\alpha}^*$ | $(\bar{x}_1 - \bar{x}_2) \pm t_{\frac{\alpha}{2}}^* \sqrt{\left(\frac{s_1^2}{n_1}\right) + \left(\frac{s_2^2}{n_2}\right)}$ |
| | | | $\mu_1 - \mu_2 > d_0$ | $T_t > t_{\alpha}^*$ | |
| | | | $\mu_1 - \mu_2 \neq d_0$ | $ T_t > t_{\alpha/2}^*$ | |
| $\mu_D = d_0$ $\mu_1 - \mu_2 = \mu_D$ | Varyans bilinmiyor (Eşleştirilmiş veri) | $T_t = \frac{\bar{d} - d_0}{s_d / \sqrt{n}}; sd = n - 1$ | $\mu_D < d_0$ | $T_t < -t_{\alpha}^*$ | $\bar{d} \pm t_{\frac{\alpha}{2}}^* \frac{s_d}{\sqrt{n}}$ |
| | | | $\mu_D > d_0$ | $T_t > t_{\alpha}^*$ | |
| | | | $\mu_D \neq d_0$ | $ T_t > t_{\alpha/2}^*$ | |