Introduction to Statistical Method

Comparing Two Means and Two Variances

Comparing Two Means - A Point Estimator

We have two populations with different means μ_1 and μ_2, the goal is to estimate the difference $\mu_1 - \mu_2$ by taking a sample from each population in independent way.

Natural point estimator: $\mu_1 \hat{-} \mu_2 := \hat{\mu_1} - \hat{\mu_2} = \overline{X}_1 - \overline{X}_2$

To determine confidence intervals and to test hypothesis we need to know the distribution $\overline{X}_1 - \overline{X}_2$