## critical region

The interval (or intervals) on the domain of a *probability distribution* that lie outside of a *confidence interval* (CI). The probability of a *random variable* X taking a value in the critical region is  $\alpha = 1 - c$ , where c is the *level of confidence* associated with the CI. The parameter a is called the *level of significance*.

When the probability distribution in which the CI lies is a *one-tailed* distribution, then there is one critical region, and when the distribution is *two-tailed*, there are two critical regions, one in each tail of the distribution, each with a probability of  $\frac{\alpha}{2}$ .

See hypothesis test, confidence interval, and z-test for location for further explanation and illustrations.