quantile function (F_X^{-1}, F^{-1})
The inverse function of the *cumulative distribution function* (CDF) of a *probability distribution*. It is denoted by the symbol F_X^{-1} (or just F^{-1}, if X is implied), where X is the *random variable* X or the *probability distribution* of X. Each distribution has its own specific quantile function. The quantile function $F_X^{-1}(p)$ computes a distribution-specific value x such that $P(x \leq X) = p$.

The quantile function is used to compute, for instance, *confidence intervals* and the *level of significance* in *hypothesis tests*. For example, a *two-tailed* confidence interval with a *level of confidence* of $c = 0.9$ would correspond to $F_Z^{-1}(0.95) = 1.64\sigma$ on the *standard normal distribution* (the argument is 0.95, because the distribution is two-tailed).