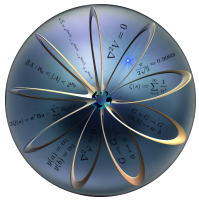

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convergence in distribution

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A sequence of distribution functions $F_1, F_2, \ldots$ converges *weakly* to a distribution function F if $F_n(t) \to F(t)$ for each point t at which F is continuous.

If the random variables $X, X_1, X_2, \ldots$ have associated distribution functions $F, F_1, F_2, \ldots$, respectively, then we say that X_n converges *in distribution* to X, and denote this by $X_n \xrightarrow{D} X$.

This definition holds for joint distribution functions and random vectors as well.

This is probably the weakest of convergence of random variables. Some results involving this of convergence are the central limit theorems, Helly-Bray theorem, Paul Lévy continuity theorem, Cramér-Wold theorem and Scheffé's theorem.