correlation coefficient (Pearson's r, r, ρ)
A normalized measure indicating the degree of *correlation* between two *random variables* X and Y, where $r \approx 0$ means that the variables are asymptotically uncorrelated, $r = 1$ indicates perfect correlation ($X = Y$) and $r = -1$ indicates perfect anticorrelation ($X = -Y$). The correlation coefficient is defined as:

$$\rho_{X,Y} = \frac{cov(X,Y)}{\sigma_X \sigma_Y}$$

where $cov(X,Y)$ is the *covariance* of X and Y and σ_X and σ_Y are the *standard deviations* of X and Y, respectively.

A similar operator exists for *samples* but, since no *Bessel's correction* is needed ($\rightarrow$ *covariance*), it is in fact equal to the above. Formally, it is defined as:

$$r_{x,y} = \frac{s_{x,y}}{s_x s_y}$$