correlation
An indicator for some form of relationship between two *random variables*. Variables that are not correlated are said to be uncorrelated or independent (→ *independence*). Formally, the *correlation coefficient* is used to determine the degree of correlation of two variables. Variables are rarely completely uncorrelated, but the correlation can be very weak. A visual hint about the correlation of two variables can be obtained by creating a *scatter plot* of the variables. When the value of one variable grows smaller as the value of the other variable grows larger, this is called "negative correlation" or *anticorrelation*.

$X \sim U(a, b)$	
PDF	$f(x) = \begin{cases} 0 & \text{if } x < a \\ \frac{1}{b-a} & \text{if } a \le x \le b \\ 0 & \text{if } x > b \end{cases}$
CDF	$F(x) = \begin{cases} 0 & \text{if } x < a \\ \frac{x-a}{b-a} & \text{if } a \le x \le b \\ 1 & \text{if } x > b \end{cases}$
Statistic	$x \in \mathbf{R}$: outcome
Parameters	$a, b \in \mathbf{R}; a \le b$: range
μ	$\frac{a+b}{2}$
σ^2	$\frac{(b-a)^2}{12}$
Skewness (γ_1)	0

Figure **CUD:** continuous uniform distribution