

## CORRELATION

## Why

1

## Definition

The *correlation* between two integrable real-valued random variables with non-zero variance is the quotient of their covariance with the product of their standard deviations.

Two integrable real-valued random variables are *uncorrelated* if their covariance is zero. We can speak of uncorrelated random variables who have zero variance, although in this case their correlation is undefined.

## Notation

Let f and g be two integrable real-valued random variables with fg integrable. Denote the correlation of f with g by cor(f, g). We defined it:

$$cor(f,g) = \frac{cov(f,g)}{\operatorname{std} f \operatorname{std} g}.$$

<sup>&</sup>lt;sup>1</sup>Future editions will include this.

