The binomial distribution

In this lecture the the **binomial probability distribution** is introduced. It starts by explaining the type of elementary **random variable** to which the distribution relates: a variable with only **two mutually exclusive outcomes** and a **fixed probability p** to obtain one of the two outcomes (a **Bernoulli trial**). Next it shows how the distribution gives the probability of **observing x successes in n Bernoulli trials**. The assumptions of independence among each outcome and a constant probability of success are specified, and the equation that describes this distribution is given with its two **parameters p and n**. The use of this equation is demonstrated with an example. Finally the equations for the mean and standard deviation of a binomial probability distribution are given and it is shown how the standard deviation of this distribution varies for different values of the parameters.