The present work is devoted to the Kelly criterion, which is a simple method for choosing the amount of the bet for gambles with a positive expected value. In the first part of the work we introduce the mathematical explanation of the criterion, examine the capital after n trials as a function of the bet, the long-run rate of return and asymptotical properties of the capital growth. In the second part we attempt to generalize the Kelly criterion from the first part for some other situations. Examples for a simple game and generalized situations illustrating the properties of the Kelly criterion and results from previous parts compose the last part of the work.