

Objective of this thesis is to describe history of gambling, in a context of roulette to explain basic and advanced parts of probability theory which allow to the reader to decide about function of several popular roulette systems.

There was mainly used expected value of discrete random variable, homogenous discrete-time Markov chain and simulations made in programming language R.

Concrete output of the thesis are in precisely calculated expected values of a profit with fixed spins and with chosen limitation and corresponding estimations provided by simulation. On the basis of that it's possible to decide which systems are functional and which are not.

Main contribution of this text is in didactical approach which helps to describe popular problematics of roulette systems by using basic and advanced areas of probability theory.