In the first segment this thesis deal with Markov chains with discreet time and a finite set of states. Subsequently there is introduced valuation of transitions and a possibility of controlling these chains. Yields from valuation of transitions are then appointed to exponential utility funcion and discounted to the begining. Afterwards there is established Howard´s iterative algorithm, which finds optimal control. The control is optimal amongst homogeneous and non-homogeneous controls. In the second segment, Markov chains are generalized to so called radical chains, again with discreet time and a finite set of states. The generalization is executed by adding an opportunity of choosing radical decisions, which take place out of real time. Howard´s iterative algorithm is modified for this more general case. The control found by the algorithm is optimal amongst homogeneous and non-homogeneous controls.