{Xn} is called a Markov chain if

Markovian property

Transition probability

Pij does not depend on n.

Definition of Markov Chains

 $\mathbb{P}(X_{n+1}=j|X_n=i,X_{n-1}=i_{n-1},\cdots,X_1=i_1,X_0=i_0)=P_{ij}$

the future is independent of the

Pij ≥ 0

homogeneous.

past and depends only on the present state