

Příklad

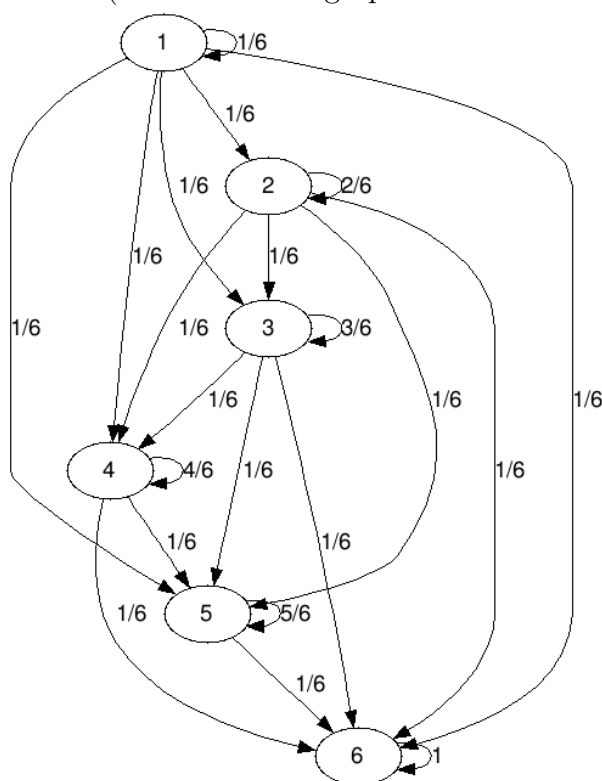
A dice is rolled repeatedly. Which of the following are Markov chains? For those that are, supply the transition graph.

- M_t is the largest number shown on the dice up to the t -th roll.
- N_t is the number of sixes in first t rolls.
- A_t is the time since (“after”) the most recent six. (So $A_t = 0$ when the t -th roll was a six, $A_t = 1$ when $(t-1)$ -st was a six, but not the t -th, etc.
- B_t is the time before the next six. (So $B_t = 0$ when the t -th roll was a six, $B_t = 1$ when $(t+1)$ -st was a six, but not the t -th, etc.

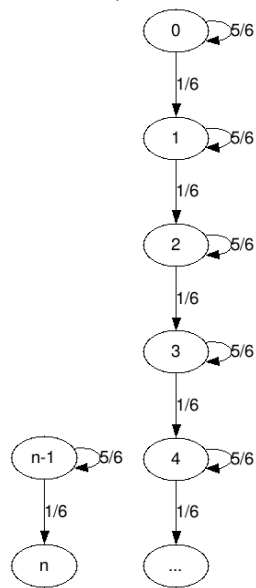
Řešení

All of them are Markov chains. Graphs are made with <https://mxwell.github.io/draw-graph/>.

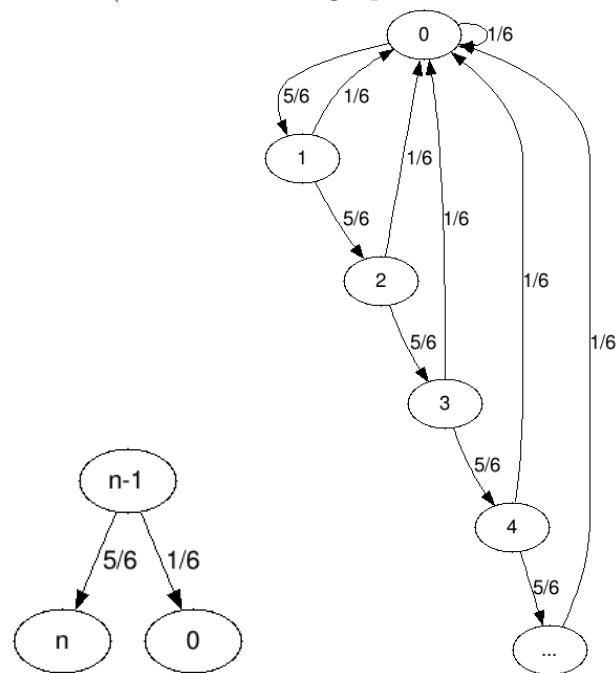
Řešení (The transition graph for the first one)



Řešení (The transition graph for the second one)



Řešení (The transition graph for the third one:)



Řešení (The transition graph for the fourth one:)

