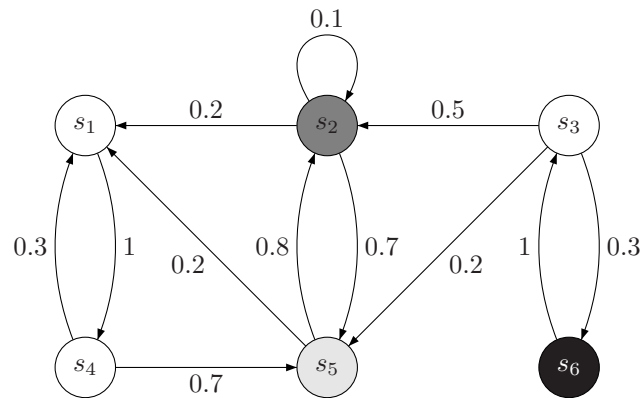# Exercises: DCTL

David N. Jansen[*]

Quantitative logics

1. Consider the following Markov chain with labels $L(s_2, black) = \frac{2}{3}$ and $L(s_5, black) = \frac{1}{3}$.

   Calculate the value of $\Diamond_{2/3}\,black$ and of $\Box_{1/2}\,black$.

2. An insurance company is using Markov chains to model a per-month insurance. Every month, the customer may or may not prolong the insurance (in accordance with the recently passed regulations about long-running contracts). They want you to check whether their premium is right. How can DCTL help them answer their question?

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