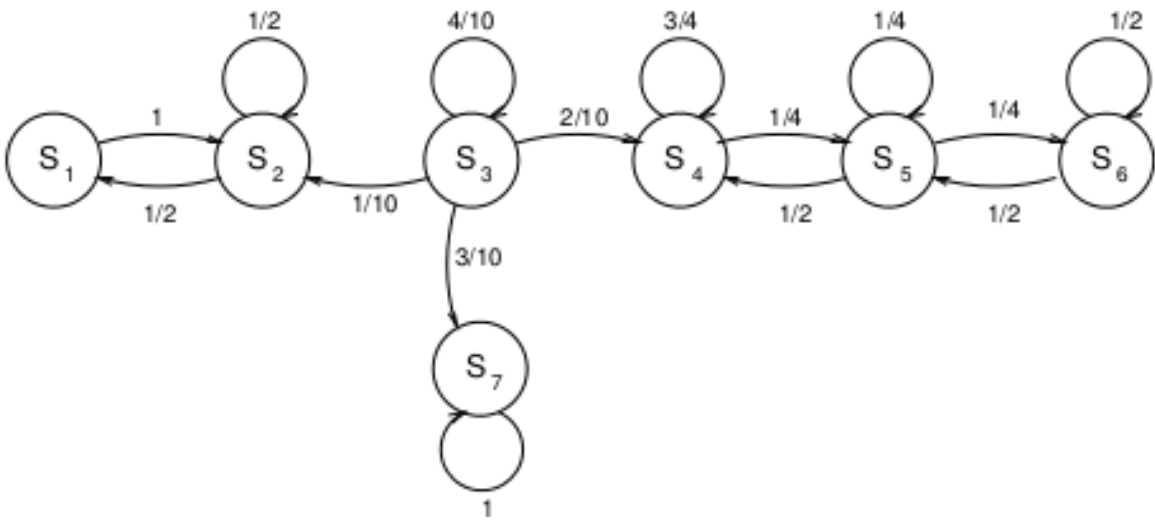# 14. Exercise: Recurrent and transient states

Exercise: Recurrent and transient states

3/4 points (ungraded)

Consider the following transition probability graph:

Decide whether each of the following statements is true or false.

1. State S_1 is a transient state.

   [False ▾] ✔ **Answer:** False

2. State S_5 is a recurrent state.

   [True ▾] ✔ **Answer:** True

3. State S_3 is a transient state.

   [True ▾] ✔ **Answer:** True

4. There are two recurrent classes.

   [True ▾] ✘ **Answer:** False

Solution:

1. False. States S_1 and S_2 form a recurrent class.

2. True. States S_4, S_5, and S_6 form a recurrent class.

3. True. The chain will eventually exit state S_3, enter one of the recurrent classes, and never return to state S_3.

4. False, there are 3: the two identified in parts (1) and (2), plus a third recurrent class consisting of only the single state S_7.

[提交] 你已经尝试了1次（总共可以尝试1次）

ℹ Answers are displayed within the problem

讨论

主题: Unit 10 / Lec. 24 / 14. Exercise: Recurrent and transient states

[显示讨论]