Faculty Of Computers and Artificial Intelligence

Cairo University

212202.FCI.AI496.Selected Topics in Artificial intelligence-2

Assignment (2)

AYA SABRY MOHAMED

2018035

Submitted to
Eng.Salah Mostafa

May 2022

Colab links

MC Area Calculation

https://colab.research.google.com/drive/1atcjbzbdk58REi461at_6IkQfRu8_BC4?usp=sharing

(finished with jupyter code and pdf)

MC Estimations 2: State machine state probability

Links:
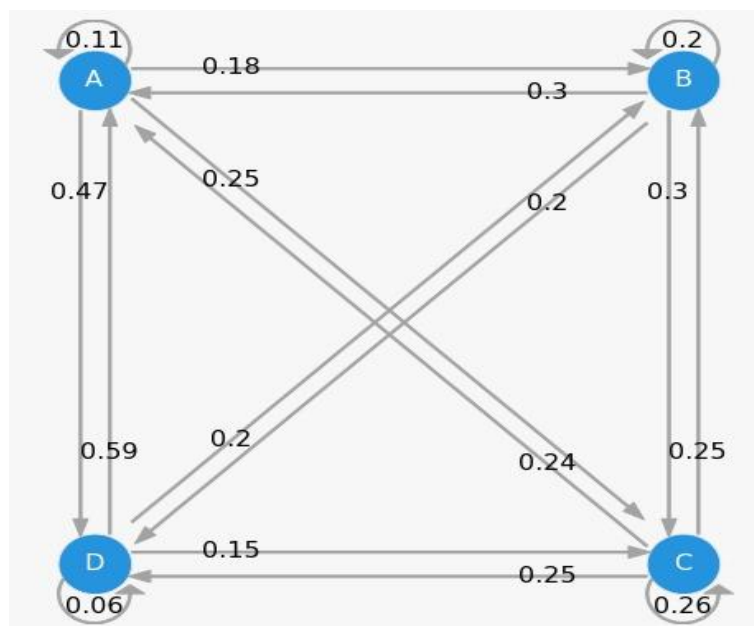
- https://colab.research.google.com/drive/1hot00Udpu6d8vGYlEl8tGHVJCckYb33k?usp=sharing

- https://colab.research.google.com/drive/1yfE6psGVJFNgRbGuLjOKMpXutQ7DaX3n?usp=sharing

1. 1000_samples_finite_state_machine

- **Transition Table :**

	A	B	C	D
A	0.11	0.18	0.25	0.47
B	0.30	0.20	0.30	0.20
C	0.24	0.25	0.26	0.25
D	0.59	0.20	0.15	0.06

- **State Graph :**

2. 10000_samples_finite_state_machine

- **Transition Table :**

	A	B	C	D
A	0.10	0.18	0.24	0.48
B	0.30	0.20	0.30	0.20
C	0.25	0.25	0.25	0.25
D	0.60	0.20	0.15	0.05

- **State Graph :**
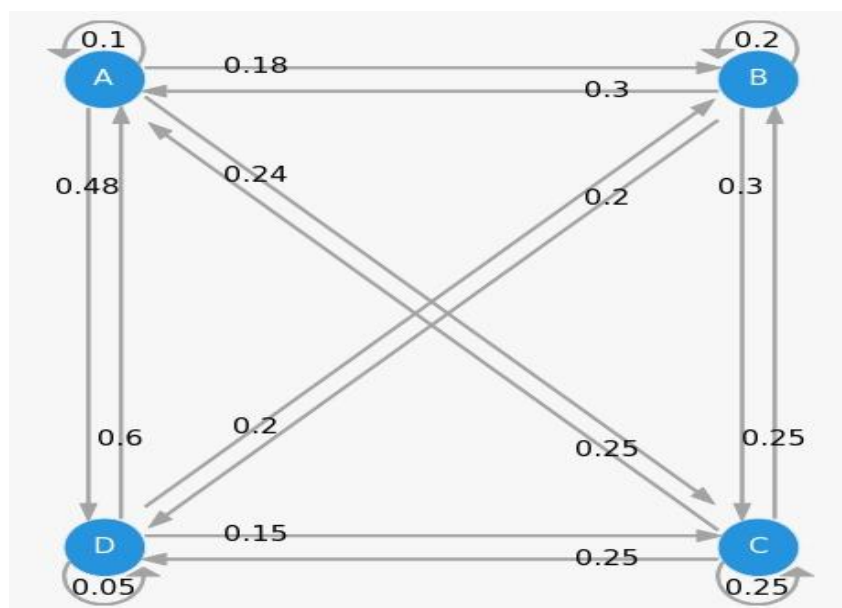
Task 2:

What is the probability of the state machine being in state 'B'; i.e., what is P(B) and how did you calculate it (You can get the value using any way you like, you just need to explain your method).

Ans : We calculate it by p(B/B) out of total transition states this means that the system will stay in state B.