Unit 5: Quiz

Due Mar 4 at 11:59pm **Points** 8 **Questions** 8
Available until Mar 5 at 2:59am **Time Limit** 60 Minutes

This quiz was locked Mar 5 at 2:59am.

Attempt History

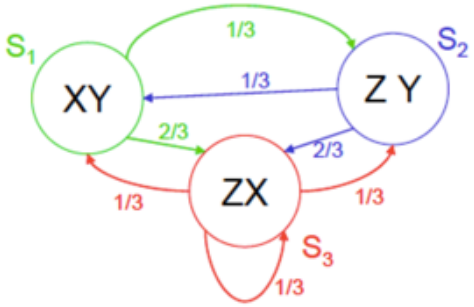
	Attempt	Time	Score
LATEST	Attempt 1	10 minutes	8 out of 8

Score for this quiz: **8** out of 8
Submitted Mar 2 at 2:20pm
This attempt took 10 minutes.

Question 1

1 / 1 pts

Given the following HMM model, where symbols X, Y and Z represent the possible observations in the states. In a circle representing a state, the symbols are equally possible observations in that state. What is the value of $b_3(Z)$ in the observation probability matrix?

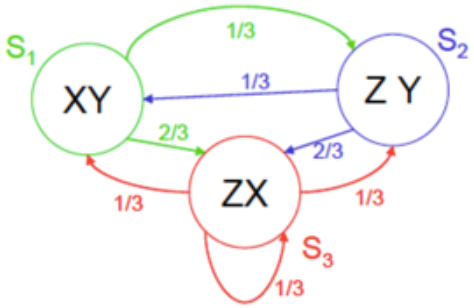


- 0
- 1/3
- 1/2 — Correct!
- 2/3

Question 2

1 / 1 pts

Given the following HMM model, where symbols X, Y and Z represent the possible observations in the states. In a circle representing a state, the symbols are equally possible observations in that state. Suppose π 1 =1/2, what is the value of P(Q), Q = S1S3S3?



- 1/2
- 2/3
- 1/9

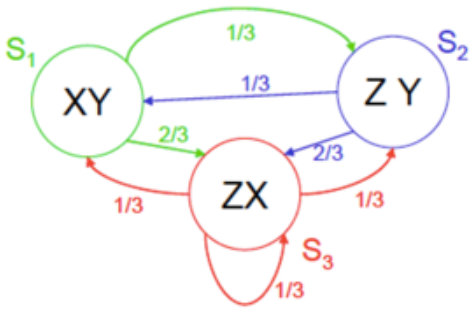
Correct!

- 1/3

Question 3

1 / 1 pts

Given the following HMM model, where symbols X, Y and Z represent the possible observations in the states. In a circle representing a state, the symbols are equally possible observations in that state. How much is P(O1=Y, O2=X, O3=Z| S2S3S3)?



Correct!

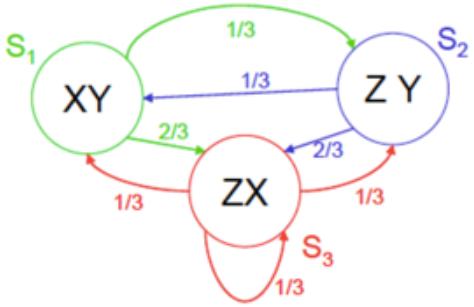
- 1/8

- 2/3
- 1/2
- 1/4

Question 4

1 / 1 pts

Given the following HMM model, where symbols X, Y and Z represent the possible observations in the states. In a circle representing a state, the symbols are equally possible observations in that state. How many states are there in the model?



- 2
- Correct! 3
- 1
- 4

Question 5

1 / 1 pts

The Viterbi Algorithm for state prediction is a dynamic programming solution.

- Correct! True
- False

Question 6

1 / 1 pts

Given an HMM Λ={Θ,Ω,A,B,π}, which matrix represents the set of output (observation)?

- A
- Correct! Ω
- Θ
- B

Question 7

1 / 1 pts

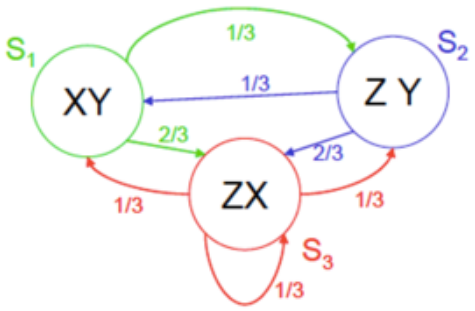
To learn the probabilities in graphical models, which of the following may be used? (Select all that apply

- Correct! Use the MLE principle for estimation.
- Correct! Make proper assumption about the priors.
- Correct! Use relative frequency to estimate probability.

Question 8

1 / 1 pts

Given the following HMM model, where symbols X, Y and Z represent the possible observations in the states. In a circle representing a state, the symbols are equally possible observations in that state.



Suppose that the first state is S1, and we have a path of length 100, how many different possible state paths are there in total?

- 3^100
- Correct! 3^99
- 4^99
- 4^100

Quiz Score: **8** out of 8