**1. Question 1**

What is the right definition of a stochastic graph?



The graph which exists with certain probability



A graph where the sum of all edges’ weights is equal to one



A graph where for each vertex the sum of weights of all the outgoing edges is equal to one

**Correct**

True. There is no way to trick you!

Question 2

Correct

1 / 1 points

**2. Question 2**

What conditions should THE GRAPH satisfy FOR ITS UNIQUE STATIONARY DISTRIBUTION TO EXIST ?

Tick the true variants



Graph is Stochastic

**Correct**

True. This is the necessary(необходимое) condition



Graph by itself is one connected component

**Un-selected is correct**



There is a path from every node to every node

**Correct**

True. You are absolutely right



The greatest common divider of all the cycle lengths is 1

**Correct**

True. This is the necessary(необходимое) condition

Question 3

Correct

1 / 1 points

**3. Question 3**

The stationary distribution at a vertex is related:

Tick the true variants



To the amount of time a random walker spends visiting that vertex.

**Correct**

True. This is a correct answer.



To the probability of getting to a certain vertex after quite a big amount of steps.

**Correct**

True. You are learning really fast



A probability to get there after the first step

**Un-selected is correct**

Question 4

Correct

1 / 1 points

**4. Question 4**

Does the stationary distribution depend on the initial vertex of the random walk process?



Yes



No

**Correct**

True. As far as the stationary distribution is related to the amount of time a random walker spends visiting that vertex after quite a big amount of steps.

Question 5

Correct

1 / 1 points

**5. Question 5**

What property should a matrix have to be called a transition for the stochastic graph:



The sum of the values in each column is equal to one



The sum of the values in each row is equal to one

**Correct**

Yes. You are absolutely right.



The sum of the values in the matrix is equal to one

Question 6

Correct

1 / 1 points

**6. Question 6**

What does a damping factor at any step mean?



The ratio of the rated impedance of the loudspeaker to the source impedance.



The probability that the surfer won’t get bored and will continue surfing.

**Correct**

Yes. I see you are looking through my videos very attentively



The probability that the surfer will get bored and will stop surfing

Question 7

Correct

1 / 1 points

**7. Question 7**

In the Page Rank Formula

https://d3c33hcgiwev3.cloudfront.net/imageAssetProxy.v1/dw0qZZKAEeenBBLw17CISg_c7295ddf1b3880a45cad9fa9e72c181e_CodeCogsEqn.png?expiry=1526083200000&hmac=fpAiBB6NNXZexE5TJTP_bfQJ0Etja8DBDYN1i5QZiiw

what meaning does the fraction below have?

https://d3c33hcgiwev3.cloudfront.net/imageAssetProxy.v1/lxYnjJKAEeedOAr2OwqdFg_1c766dfb371659c055ede7310139f818_CodeCogsEqn-2.png?expiry=1526083200000&hmac=XauumXfKXEZKEjl4zE6hCbzp1eUGIW2zRjGAV1xj8ZA



There’s a probability for every page to be chosen after a random surfer gets bored

**Correct**

Yep, You quickly grasp the essence



There is a probability for every page to be chosen if a random surfer doesn’t get bored

Question 8

Correct

1 / 1 points

**8. Question 8**

Why will iterations of page rank algorithm converge?



Because after the damping factor is introduced, the graph of the world wide web satisfies all the conditions for the unique stationary distribution existence.

**Correct**

Yes, you are definitely right



Because after the damping factor is introduced, there will be a moment when a random surfer gets extremely bored and stops surfing



Because the probability for each new step of a random surfer is getting smaller and smaller with each new iteration of page rank algorithm