

Quiz 1

Answers may have multiple correct options. You need to identify all the correct answers to get marks. No part marking is there.

Points:

10/10

1. Typical examples of shallow embeddings on graphs include

(2/2 Points)

- ☐ **Node2Vec**
- ☐ GraphSAGE
- ☐ **DeepWalk**
- ☐ None of these

2. In unsupervised way of learning node embeddings, which of the following are correct

(0/2 Points)

- ☐ **We do not use node labels**
- ☐ We do not use node features
- ☐ **We may use link information among the nodes**
- ☐ **Embeddings generated are task independent and can be used for several tasks**

3. Use of random walks provides

(0/2 Points)

- ☐ **A definition of node similarity**
- ☐ Typically used for generating node attributes
- ☐ **A way to generate negative samples**
- ☐ A easier way of loss function optimization

4. As a random walk strategy in a graph, a random walker at node u , selects the next hop neighbor v with a probability proportional to $1/(|\deg(u) - \deg(v)| + 50)$.

If the given network is highly assortative, which of the following is true?

(0/2 Points)

- ☐ **The random walker is an almost unbiased walker**
- ☐ For node u , there is a strong likelihood that its highest degree neighbor will be adjacent to it in the node sequences generated
- ☐ The node sequences will automatically be DFS traversals from node u

- ☐ For a high degree node, the random walk is biased towards is lowest degree neighbor
- ☐ None of these

5.What are the possible ways of generating embeddings of entire graph (2/2 Points)

- ☐ **Generate representations of the nodes and take the sum of the representations**
- ☐ **Create a virtual node that connects to all nodes in the graph. Find the embeddings of the virtual node**
- ☐ **Sampling of anonymous walks**
- ☐ None of these