Graph Representations

Practice Quiz, 5 questions

5/5 points (100.00%)

Congratulations! You passed!

Next Item

1 / 1 points

1.
Imagine a football championship in your country and you've decided to represent the information about matches between teams in a shape of a graph. What type of graph will you choose:

- Directed
- Undirected

Correct
True. Let's call teams A and B. If team A plays with team B this means that team B plays with team A.

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1 / 1 points

2.
Why is it bad idea to store the graph with a huge number of vertices and comparatively small number of edges in a form of an adjacency matrix?

- Because the adjacency matrix is not suitable for graph storing
- Because in this case you will use a lot of memory to store the information about absent edges

Correct
True. In this case we can store only the edges presented in the graph that will occupy less memory and for each edge not presented in the stored set conclude it does not exist

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1 / 1 points

3.

When could using adjacency matrices be more effective than adjacency lists and edge list?

- When amount of edges is comparatively small comparing to the amount of vertices
- When the graph is directed
- When you are looking for a particular edge between two vertices

Correct

True, because to check if there is an edge between vertex i and vertex j you should just check the [i, j] element of the matrix. In case of the edge list you will need to look at all the elements of it in the worst case. In case of adjacency lists you will need to look through all the elements in its adjacency list in the worst case

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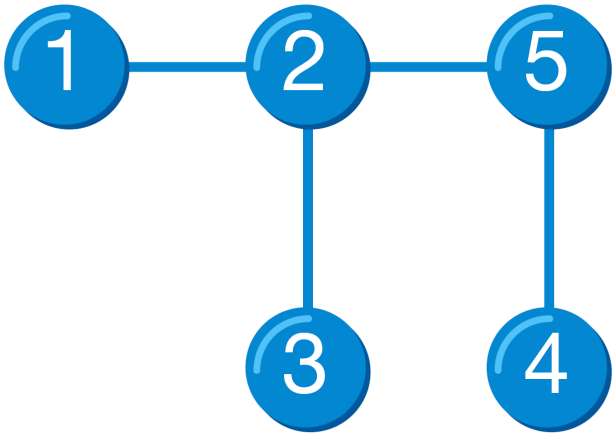
1 / 1 points

4.

Having decided to store the following graph in the form of an edge list, please specify, how the graph will look like?



- [(1, 2), (2, 3), (2, 5), (3, 1), (4, 5)]

[(1, 2), (2, 3), (2, 5), (4, 5)]

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Correct

Correct, the graph in the picture has 4 undirected edges and you have mentioned all of them in the list

[(1, 2), (2, 1), (2, 3), (3, 2), (2, 5), (5, 2), (4, 5), (5, 4)]

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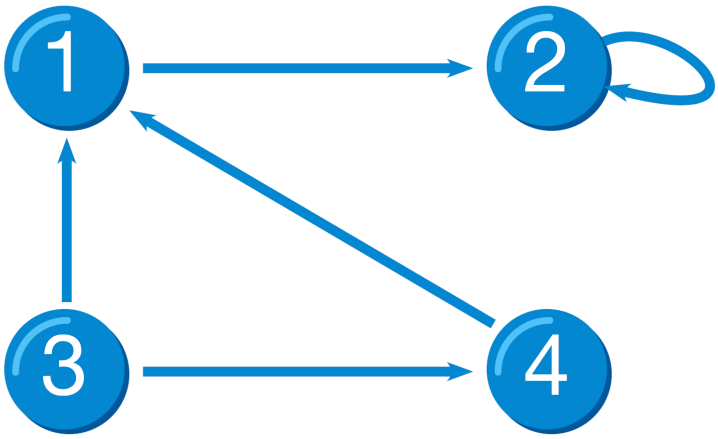
1 / 1 points

5.

Having decided to store the following graph in the form of an adjacency matrix, please specify, how the graph will look like?



0	1	1	1
1	1	0	0
1	0	0	1
1	0	1	0

0	1	0	0
0	1	0	0
1	0	0	1
1	0	0	0

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Correct

Correct, this matrix has all necessary edges