DM Quiz Unit 5 (SE COMP-I (2020-21))

* Required

* This form will record your name, please fill your name.

1

Roll Number *

2

Name *

3

Class *

◯ SE Shift 1

◯ SE Shift 2

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Which of the following is false about a binary search tree? *
(1 Point)

○ The left child is always lesser than its parent

○ The right child is always greater than its parent

○ The left and right sub-trees should also be binary search trees

○ In order sequence gives decreasing order of elements

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What is the speciality about the inorder traversal of a binary search tree? *
(1 Point)

○ It traverses in a non increasing order

○ It traverses in an increasing order

○ It traverses in a random fashion

○ It traverses based on priority of the node

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The number of edges from the root to the node is called _____ of the tree. *
(1 Point)

○ Height

○ Depth

○ Length

○ Width

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What is a full binary tree? *
(1 Point)

○ Each node has exactly zero or two children

○ Each node has exactly two children

○ All the leaves are at the same level

○ Each node has exactly one or two children

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Which of the following is false in the case of a spanning tree of a graph G? *
(1 Point)

○ It is tree that spans G

○ It is a subgraph of the G

○ It includes every vertex of the G

○ It can be either cyclic or acyclic

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Consider a complete graph G with 4 vertices. The graph G has ____ spanning trees. *
(2 Points)

○ 15

○ 8

○ 16

○ 20

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Which of the following is not the algorithm to find the minimum spanning tree of the given graph? *
(2 Points)

○ Boruvka's algorithm

○ Prim's algorithm

○ Kruskal's algorithm

○ Bellman–Ford algorithm

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Kruskal's algorithm is used to _____ *
(2 Points)

○ find minimum spanning tree

○ find single source shortest path

○ find all pair shortest path algorithm

○ traverse the graph
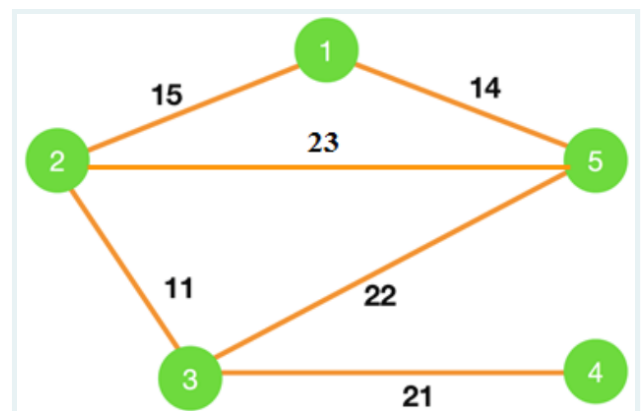
Consider the following statements.
S1. Kruskal's algorithm might produce a non-minimal spanning tree.
S2. Kruskal's algorithm can efficiently implemented using the disjoint-set data structure. *
(2 Points)

○ S1 is true but S2 is false

○ Both S1 and S2 are false

○ Both S1 and S2 are true

○ S2 is true but S1 is false

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Consider the graph shown below.
Which of the following edges form the MST of the given graph using Prim'a algorithm, starting from vertex 4. *
(4 Points)

○ (4-3)(5-3)(2-3)(1-2)

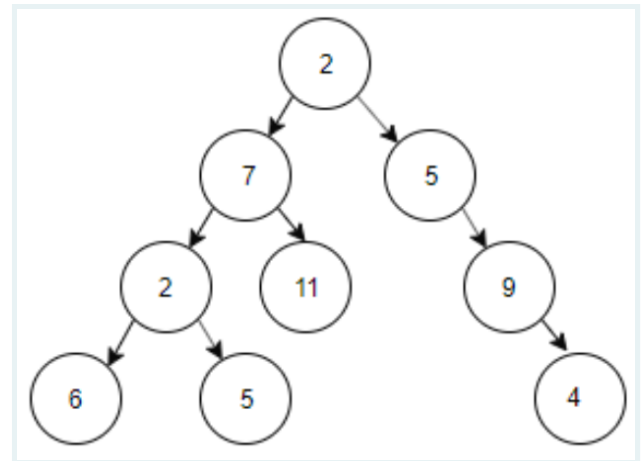○ (4-3)(3-5)(5-1)(1-2)

○ (4-3)(3-5)(5-2)(1-5)

○ (4-3)(3-2)(2-1)(1-5)

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A _____ is a decision support tool that uses a tree-like graph or model of decisions and their possible consequences, including chance event outcomes, resource costs, and utility. *
(1 Point)

○ Decision tree

○ Graphs

○ Trees

○ Neural Networks

○ Option 2

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For the tree below, write the in-order traversal. *
(2 Points)

○ 6, 2, 5, 7, 11, 2, 5, 9, 4

○ 6, 5, 2, 11, 7, 4, 9, 5, 2

○ 2, 7, 2, 6, 5, 11, 5, 9, 4

○ 2, 7, 6, 5, 11, 2, 9, 5, 4

○ Option 2

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