DATA STRUCTURES AND ALGORITHM

Motivation.txt

(SERENIO, MARC JAY D.() {
BS COMPUTER ENGINEERING 2-1();
13 JANUARY 2023();
MRS. SAYO();
repeat();
})();

#Quote #Programming #Selfcare

TREES

Motivation.txt

EXERCISE ON TREES
2. IS A TREE A FOREST?
• yes
3. WHAT DO YOU CALL THE SPECIAL DESIGNATED NODE IN A TREE?
•the roots

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TREES

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EXERCISE ON TREES
1. NAME THE THREE PROPERTIES OF A TREE?
•number of edges
•dept of node x
•height of node x

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TREES

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EXERCISE ON TREES
4. WHAT IS THE MINIMUM NUMBER OF NODES IN A TREE?
• 1
5. CAN A TREE HAVE NO SUBTREES AT ALL?
• a tree can containone of special node called the "root" with zero or manysubtrees. And it may also contain no nodes at all.

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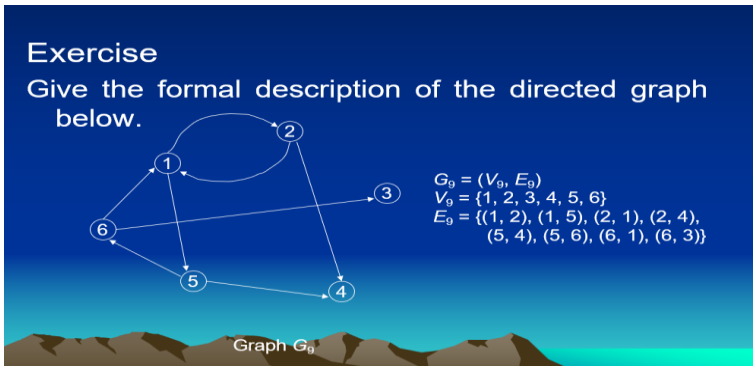
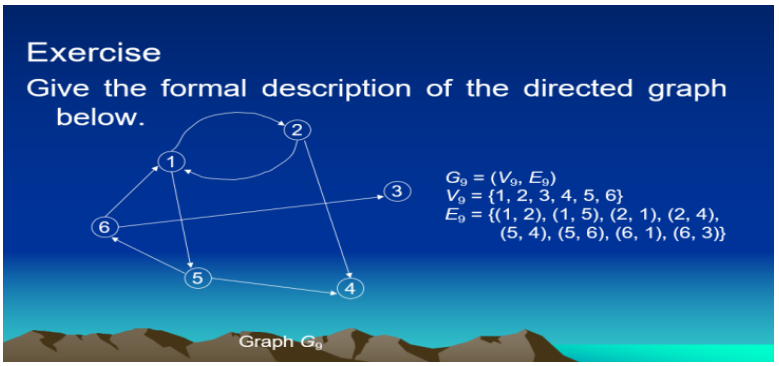
TREES

Answer in a Short Quiz

1. Trees is a nonlinear hierarchical data structure that consists of nodes connected by edges.
2. Yes
3. Root
4. One
5. Yes
6. 13, 6, 60
7. 7
8. Has no siblings
9. 4, 12, 7, 22
10. 13, 6, 60, 23, 21
11. 23, 6, 60, 12, 4, 7, 22
12. 13, 16, 60, 12, 4, 7, 22
13. 3 (depth)
14. 3 (degree)
15. 4 (height)
16. 6 (leaves)
17. No
18. No
19. No
20. No
21. Yes
22. n^h
23. $\log_n m$
24. $\frac{n^h-1}{n-1}$
25. $n^h - 1$

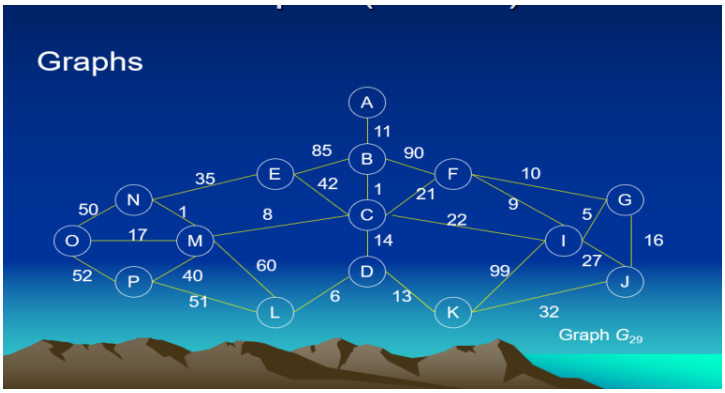
GRAPH

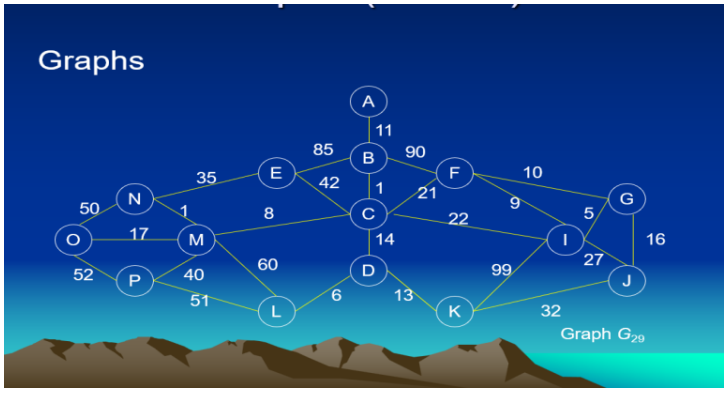




VERTICES	IN-DEGREE	OUT-DEGREE
1	3	1
2	1	2
3	1	2
4	2	3
5	2	1

VERTICES	IN-DEGREE	OUT-DEGREE
1	2	2
2	1	2
3	1	0
4	2	0
5	1	2
6	1	2





KRUSKAL'S ALGORITHM

e (B, C)	w 1
e (M, N)	w 1
e (G, I)	w 5
e (D, L)	w 6
e (C, M)	w 8
e (F, I)	w 9
e (A, B)	w 11
e (D, K)	w 13
e (C, D)	w 14
e (G, J)	w 16
e (M, O)	w 17
e (C, F)	w 21
e (E, N)	w 35
e (M, P)	w 40

TOTAL MINIMUM SPANNING TREE: 197

PRIM'S ALGORITHM

e (A, B)	w 11
e (B, C)	w 1
e (C, M)	w 8
e (M, N)	w 1
e (C, D)	w 14
e (D, L)	w 6
e (D, K)	w 13
e (M, O)	w 17
e (C, F)	w 21
e (F, I)	w 9
e (G, I)	w 5
e (G, J)	w 16
e (E, N)	w 35
e (M, P)	w 40

TOTAL MINIMUM SPANNING TREE: 197