Kruskal's Algorithm

Edge (B, C) w(B, C) = 1

Edge (M, N) w(M, N) = 1

Edge(G, I) w(G, I) = 5

Edge(D, L) w(D, L) = 6

Edge(C,M) w(C, M) = 8

Edge(F, I) w(F, I) = 9

Edge(A, B) w(A, B) = 11

Edge(D, K) w(D, K) = 13

Edge(C, D) w(C, D) = 14

Edge(G, J) w(G, J) = 16

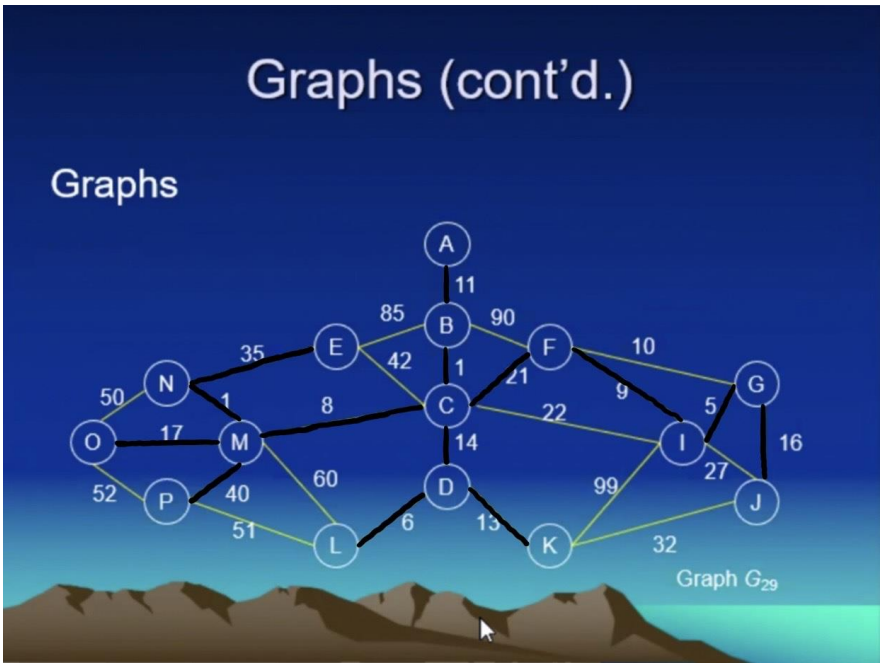
Edge(M, O) w(M,O) = 17

Edge(C, F) w(C, F) = 21

Edge(E, N) w(E, N) = 35

Edge(M, P) w(M, P) = 40

cost of the minimum spanning tree = 197



Prim's Algorithm

Edge(A, B) w(A, B) = 11

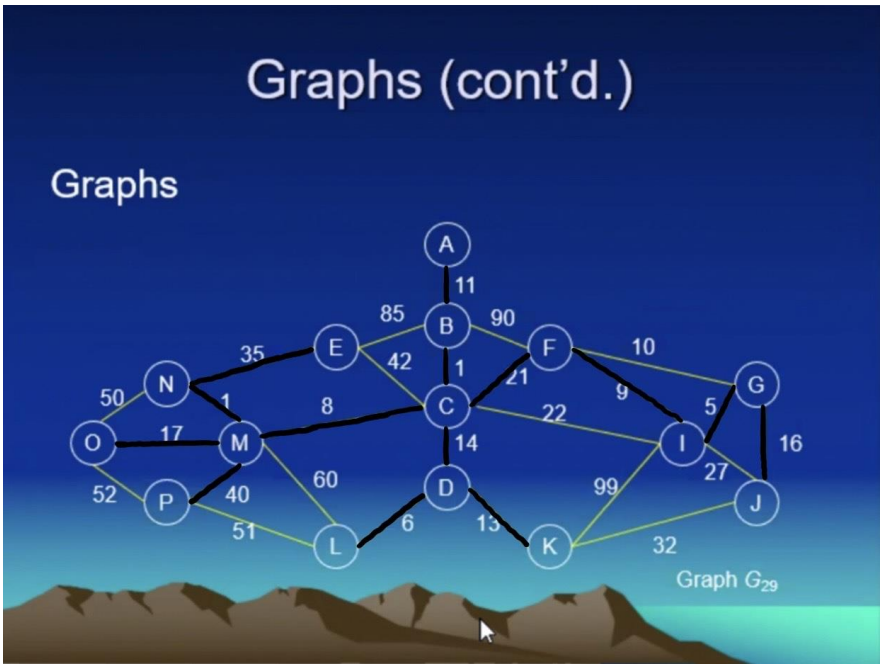
Edge (B, C) w(B, C) = 1

Edge(C, D) w(C, D) = 14

Edge(D, K) w(D, K) = 13

Edge(D, L) w(D, L) = 6

Edge(C, F) w(C, F) = 21



Edge(F, I) w(F, I) = 9

Edge(G, I) w(G, I) = 5

Edge(G, J) w(G, J) = 16

Edge(C,M) w(C, M) = 8

Edge (M, N) w(M, N) = 1

Edge(E, N) w(E, N) = 35

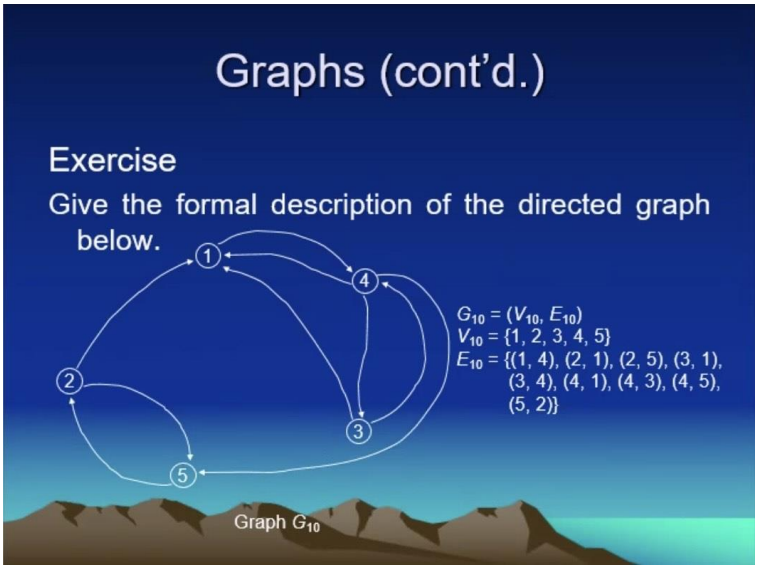
Edge(M, O) w(M,O) = 17

Edge(M, P) w(M, P) = 40

Cost of minimum spanning tree = 197

Quiz

1. connected, acyclic(no cycle), undirected graph
2. Yes
3. Root node
4. At least 1 node
5. Yes
6. 13, 6, 60
7. 7
8. Node 23 has no siblings
9. 22, 7, 12, 4
10. 13, 6, 60, 23, 21
11. 23, 6, 21, 20, 9, 1
12. 22, 16, 7, 13, 60, 12, 4
13. Node 4 has a depth of 3
14. The tree has a degree of 4
15. The tree has a height of 4
16. The tree has a weight of 6
17. No
18. No
19. No
20. Yes, as long as all if not, some of the leaves have the same depth.
21. Yes, if each or some of the nodes either a leaf has an exact degree of 2.
22. n^h
23. $log_n m$
24. $\frac{n^h-1}{n-1}$
25. $n^h + \frac{n^h-1}{n-1}$



Outdegree of:

1 is 1

2 is 2

3 is 2

4 is 3

5 is 1

Indegree of:

1 is 3

2 is 1

3 is 1

4 is 2

5 is 2

Adjacent

The vertices adjacent to node 1 is node 4. The vertices adjacent from node 1 are 2, 3, 4.