

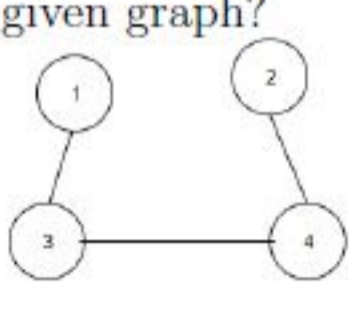
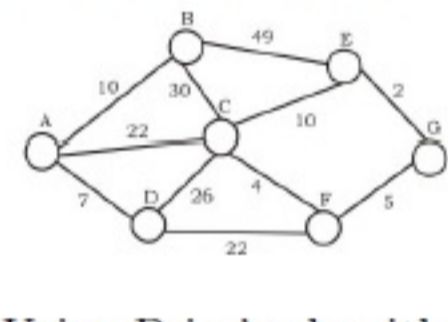
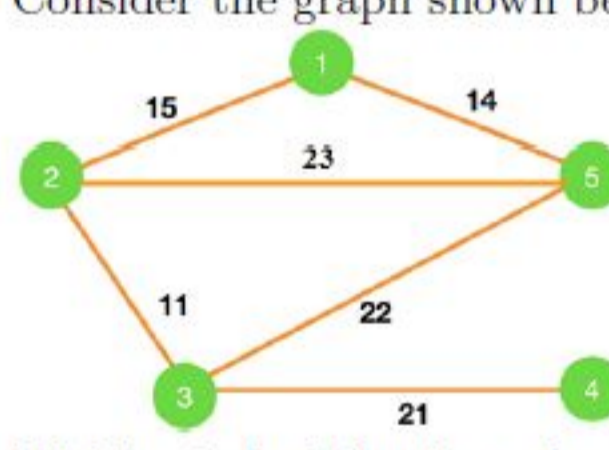
Unit 10 - Week 8

Course outline
How does an NPTEL online course work?
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Week 8
<ul style="list-style-type: none"> Lecture 36: Dynamic Programming Lecture 37: Longest common subsequence Lecture 38: Graphs Lecture 39: Prim's Algorithms Lecture 40: Graph Search Week 8: Lecture note Quiz : Assignment 8 Week 8 Feedback Form
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Assignment 8

The due date for submitting this assignment has passed.
As per our records you have not submitted this assignment.

Due on 2020-03-25, 23:59 IST.

- 1) Which of the following is/are property/properties of a dynamic programming problem? 1 point
- (a) Optimal substructure
(b) Overlapping subproblems
(c) Greedy approach
(d) Both optimal substructure and overlapping subproblems
- a.
 b.
 c.
 d.
- No, the answer is incorrect.**
Score: 0
Accepted Answers:
d.
- 2) In dynamic programming, the technique of storing the previously calculated values is called 1 point
- (a) Saving value property
(b) Storing value property
(c) Memoization
(d) Mapping
- a.
 b.
 c.
 d.
- No, the answer is incorrect.**
Score: 0
Accepted Answers:
c.
- 3) Prim's algorithm is a 1 point
- (a) Divide and conquer algorithm
(b) Greedy algorithm
(c) Dynamic Programming
(d) Approximation algorithm
- a.
 b.
 c.
 d.
- No, the answer is incorrect.**
Score: 0
Accepted Answers:
b.
- 4) What is the number of edges present in a complete graph having n vertices? 1 point
- (a) $\frac{n(n+1)}{2}$
(b) $\frac{n(n-1)}{2}$
(c) n
(d) Information given is insufficient
- a.
 b.
 c.
 d.
- No, the answer is incorrect.**
Score: 0
Accepted Answers:
b.
- 5) What would be the number of zeros in the adjacency matrix of the given graph? 1 point
- 
- (a) 10
(b) 6
(c) 16
(d) 0
- a.
 b.
 c.
 d.
- No, the answer is incorrect.**
Score: 0
Accepted Answers:
a.
- 6) Consider the undirected graph below: 1 point
- 
- Using Prim's algorithm to construct a minimum spanning tree starting with node A, which one of the following sequences of edges represents a possible order in which the edges would be added to construct the minimum spanning tree?
- (a) (E, G), (C, F), (F, G), (A, D), (A, B), (A, C)
(b) (A, D), (A, B), (A, C), (C, F), (G, E), (F, G)
(c) (A, B), (A, D), (D, F), (F, G), (G, E), (F, C)
(d) (A, D), (A, B), (D, F), (F, C), (F, G), (G, E)
- a.
 b.
 c.
 d.
- No, the answer is incorrect.**
Score: 0
Accepted Answers:
d.
- 7) How do we know when to stop Prim's algorithm for finding the minimum spanning tree of a given graph? 1 point
- (a) There is no stopping point, so the algorithm is continued indefinitely.
(b) When all of the vertices of the original graph are included in the tree
(c) When all of the edges of the original graph are included in the tree
(d) When half of the vertices of the original graph are included in the tree
- a.
 b.
 c.
 d.
- No, the answer is incorrect.**
Score: 0
Accepted Answers:
b.
- 8) Consider the graph shown below. 1 point
- 
- Which of the following edges form the MST of the given graph using Prim's algorithm, starting from vertex 4.
- (a) (4-3)(5-3)(2-3)(1-2)
(b) (4-3)(3-5)(5-1)(1-2)
(c) (4-3)(3-5)(5-2)(1-5)
(d) (4-3)(3-2)(2-1)(1-5)
- a.
 b.
 c.
 d.
- No, the answer is incorrect.**
Score: 0
Accepted Answers:
d.
- 9) Consider two strings $A = qpqrr$ and $B = ppprrqp$. Let x be the length of the longest common subsequence (not necessarily contiguous) between A and B and let y be the number of such longest common subsequences between A and B. Then $x + 10y =$ 1 point
- (a) 33
(b) 23
(c) 43
(d) 34
- a.
 b.
 c.
 d.
- No, the answer is incorrect.**
Score: 0
Accepted Answers:
d.
- 10) Consider the following statement "A locally optimal choice is globally optimal". This statement is 0 points
- (a) True
(b) False
- a.
 b.
- No, the answer is incorrect.**
Score: 0
Accepted Answers:
a.