QuizW11

2016年5月30日 23:09

by Chris

Review Test Submission: Week 11 Quiz

User	Haoyu Lin
Subject	Algorithms and Complexity
Test	Week 11 Quiz
Started	23/05/16 6:36 PM
Submitted	23/05/16 6:37 PM
Due Date	27/05/16 11:59 PM
Status	Completed
Attempt Score	4 out of 4 points
Time Elapsed	0 minute
Instructions	You should attempt the quiz after the lecture and your tutorial.

- The quiz is available for a period of 10 days.
- You may attempt the quiz multiple times (if you happen to get a question wrong, you can do it again)
- Your score on the quiz will be recorded in the grade book. The score is not used when determining your final mark in this subject
- The quiz might not display equations correctly in some browsers. If you experience problems, we recommend that you use Firefox.

Note: you must complete at least eight of the weekly quizzes to meet one of the hurdle requirements in this subject.

Results Displayed	All Answers, Submitted Answers, Feedback, Incorrectly Answered Questions

Question 1

1 out of 1 points

Consider this instance of the knapsack problem. We have a total capacity W = 12 and six items, with weights and values as follows:

item	weight	value
1	3	20
2	2	15
3	3	25
4	4	30
5	5	30
6	6	50

	0	1	2	3	4	5	6	7	8	9	10	11	12
0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	20	20	20	20	20	20	20	20	20	20
2	0	0	15	20	20	35	35	35	35	35	35	35	35
3	0	0	15	25	25	40	45	45	60	60	60	60	60
4	0	0	15	25	30	40	45	55	60	70	75	75	90
5	0	0	15	25	30	40	45	55	60	70	75	75	90
6	0	0	15	25	30	40	50	55	65	75	80	90	95

The dynamic programming algorithm will establish that the optimal value that can be achieved for this instance is:

Selected Answer: 95

Response Feedback: Yes, that's right. Items 2, 4 and 6 will be selected.

50 + (5, 6) . 6,4,2 or 6,3,1

Question 2

1 out of 1 points

A connected weighted undirected graph G has 57 nodes and 194 edges. How many edges does a minimum spanning tree for G have?

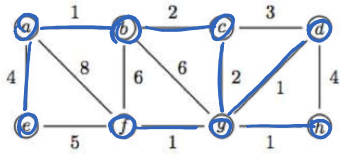
Selected Answer: 56

Response Feedback: Yes, too easy. For a connected undirected graph <V,E>, any spanning tree has |V|-1 edges.

Question 3

1 out of 1 points

Consider the graph below. What is the cost of its minimum spanning tree, that is, the sum of its edges' weights?



(using Krustal's will be easier)

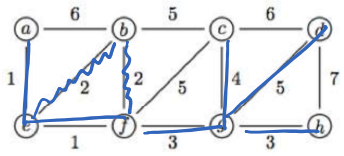
Selected Answer: 12

Response Feedback: You got that right!

Question 4

1 out of 1 points

Consider the graph below. How many different minimum spanning trees does it have?



(using Krustal's will be easier

only 2 possibilities

Selected Answer: 2

Response Feedback: Yes, correct.

Monday, 30 May 2016 11:08:21 PM EST

← OK