

Preview



Quiz - Dynamic Programming and Backtracking

(!) This is a preview of the draft version of the quiz

Instructions



This quiz will test your understanding of the material covered so far this week (MLOs).

This is an online quiz. There will be no time limit to the quiz. You can attempt the quiz twice and the best of the scores will be retained. This is open notes and open internet quiz but refrain from discussing with anybody during the exam.

Note that this test cannot be taken past the due date for any credit.

Quiz Type Graded Quiz

Points 10

Assignment Group Quizzes

Shuffle Answers Yes

Time Limit No Time Limit

Multiple Attempts Yes

Score to Keep Highest

Attempts 2

View Responses Always

Show Correct Answers After Apr 24 at 12am

One Question at a Time No.

Due	For	Available from	Until
Apr 23	Everyone	-	Apr 24 at 11:59pm

Preview



Score for this attempt: 0 out of 10

Submitted Apr 28 at 8:26pm

This attempt took less than 1 minute.

Given two integer arrays to represent weights and profits of 'N' items, find a subset of these items that will give us maximum profit such that their cumulative weight is not more than a given number 'C'. Best technique to solve this problem is? Dynamic Programming Divide and Conquer Brute Force Backtracking



Jnanswered

Question 2

0 / 2 pts

To find the optimal solution for 0-1 knapsack, what would be dimensions of the extra array that we would need? The knapsack has a capacity of W, and there are total of n items. Assume we are using the approach that was discussed in the exploration.

Array[W][n]

orrect Answer

Array[W+1][n+1]

Array[n+1]

Jnanswered	Question 3	0 / 1 pts
	We are given an array of numbers and we are asked to find the solution to maximize the sum of numbers (i.e continuous subsethat has maximum sum). We would always end up with the same combination of numbers as answer.	quence
	True	
orrect Answer	False	
L		
Jnanswered	Question 4	0 / 1 pts
	What does a backtracking algorithm do if it reaches a complete	solution?
•	None of the options	
	It backtracks to the root	
orrect Answer	It either stops or continues searching for other solutions	
	It backtracks and traverses the same route	
L		
Jnanswered	Question 5	0 / 1 pts
	Backtracking is used to solve which of the problems:	
	Any numerical problems	

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orrect Answer

- To find all possible solutions
- Optimal solution problems

Jnanswered

Question 6

0 / 2 pts

What is the correct recurrence formula for the unbound knapsack problem that was discussed in the exploration?

Consider the weight of the items w[1..n], value of the items v[1..n]

- $F(x) = max{ F[x-v_i] + w_i }$



Answer

- $F(x) = max\{ F[x-w_i] + v_i \}$
- $F(x,i) = max\{ v_i + F[x-w_i, i-1], F[x, i-1] \}$

Jnanswered

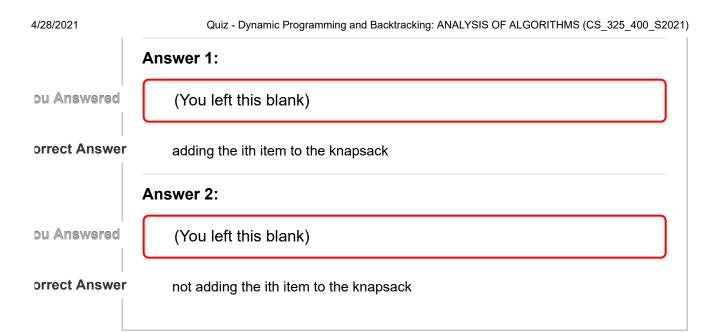
Question 7

0 / 2 pts

In the o-1 knapsack recurrence formula $f(x,i) = max\{ v_i + f[x-w_i, i-1], f[x, i-1] \}$

The first part v_i + f[x- w_i , i-1] represents : [Select]

The second part f[x , i -1] represents: [Select]



Quiz Score: 0 out of 10

