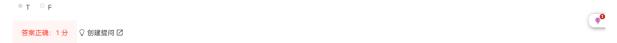The root of an optimal binary search tree always contains the key with the highest search probability.

F

To solve a problem by dynamic programming instead of recursions, the key approach is to store the results of computations for the subproblems so that we only have to compute each different subproblem once. Those solutions can be stored in an array or a hash table.

○ T   ○ F

答案正确: 1 分   ♀ 创建提问 ☒

Which one of the following problems can be best solved by dynamic programming?

◉ A. Longest common subsequence problem

○ B. Quicksort

○ C. Mergesort

○ D. Closest pair of points problem

答案正确: 1 分   ♀ 创建提问 ☒

Why doesn't Floyd algorithm work if there are negative-cost cycles?

○ A. Because Floyd algorithm will fall into infinite loops.

○ B. Because a negative-cost cycle will result in a negative D[i][i], yet Floyd algorithm can only accept positive weights.

○ C. Because Floyd didn't like negative numbers.

◉ D. Because Floyd algorithm will terminate after finite steps, yet the shortest distance is negative infinity if there is a negative-cost cycle.

答案正确: 2 分   ♀ 创建提问 ☒

We can tell that there must be a lot of redundant calculations during the exhaustive search for the matrix multiplication problem, because the search work load is the Catalan number, yet there are only ___ different sub-problems M_{ij}.

○ A. $O(N^3)$ ◉ B. $O(N^2)$

○ C. $O(N)$ ○ D. $O(N^4)$

答案正确: 2 分   ♀ 创建提问 ☒