In a greedy algorithm, a decision made in one stage is not changed in a later stage.

○ T   ○ F

答案正确：1 分   ♡ 创建提问 ☑

A binary tree that is not full cannot correspond to an optimal prefix code.

○ T   ○ F

答案正确：1 分   ♡ 创建提问 ☑

Let $c_{1,j}$ be the optimal solution for a_1 to a_j, and $a_{k(j)}$ is the nearest compatible activity to a_j that is finished before a_j. If each activity has a weight w, then

$$c_{1,j} = \begin{cases} 1 & \text{if } j=1 \\ \max\{c_{1,j-1}, c_{1,k(j)} + w_j\} & \text{if } j>1 \end{cases}$$

F

Greedy algorithm works only if the local optimum is equal to the global optimum.

○ T   ○ F

T

To prove the correctness of a greedy algorithm, we must prove that an optimal solution to the original problem always makes the greedy choice, so that the greedy choice is always safe.

F

Given four characters (a, b, c, d) with distinct frequencies in a text. Suppose that a and b are the two characters having the lowest frequencies. Which of the following sets of code is a possible Huffman code for this text?

○ A. a: 000, b:001, c:10, d:1

○ B. a: 010, b:001, c:01, d:1

◉ C. a: 000, b:001, c:01, d:1

○ D. a: 000, b:001, c:01, d:11

答案正确：2 分   ♡ 创建提问 ☑