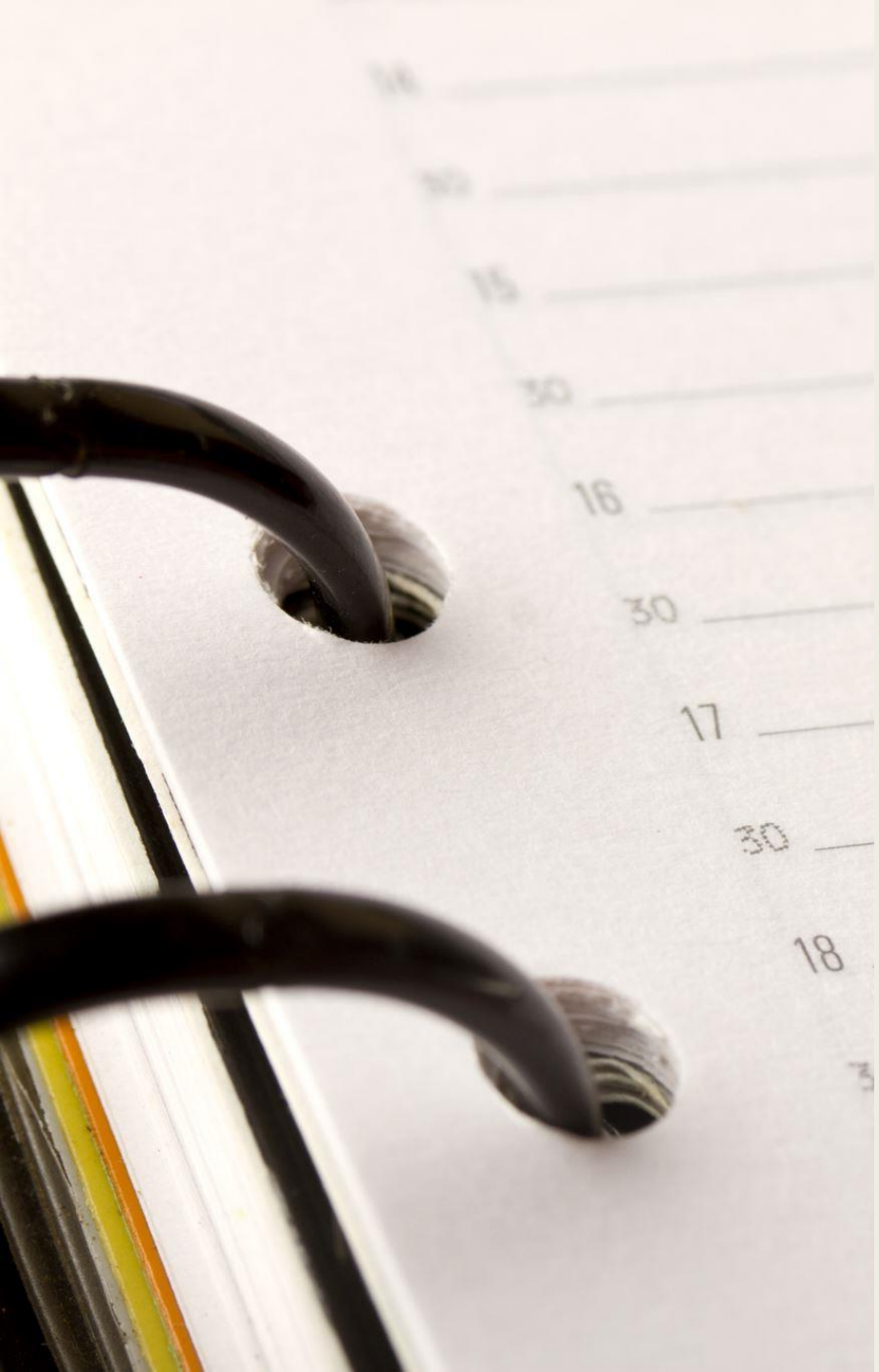
CCC JUNIOR LEC8

Topic: Recursive, Cache/Dynamic Programming(DP)



今日课程预览

- Review of last week’s problem (wait time, arrival time, sunflowers, cold compress).
- Data container APIs complexity summary
- Recursive concept
- Cache
- Examples
- Past exams

Recursive

What is recursive function?
How do we compute n! in a recursive way?
How do we compute Fibonacci sequence in a recursive way?
How do we think of Hanoi Tower in a recursive way?
Apply recursive algorithm for problem which is hard to solve directly: coin problem,

Cache/Dynamic Programming(DP)

What is Cache/Dynamic Programming(DP)?
What is the benefit we get when introducing cache in solving a recursive problem?
Examples of caching which significantly improves the recursive algorithms: Fibonacci sequence, palindromes, pie-day problem

Example: longest sub-Palindrome

Problem Description: Palindrome is string which is symmetric

Input: racecar; output: racecar
Input: racecarx; output: racecar
Input: race carr; output: rr
Input: something rac e car going; output: g rac e car g
Input: mad am i ma dam; output: mad am i ma dam;