

322. Coin Change

作者: qianrong wu

思路

use bfs to calculate the tree level

解法

```
class Solution(object):
    def coinChange(self, coins, amount):
        """
        :type coins: List[int]
        :type amount: int
        :rtype: int
        """
        steps = collections.defaultdict(int)
        queue = collections.deque([0])
        steps[0] = 0
        coins.sort()
        while queue:
            front = queue.popleft()
            level = steps[front]
            if front == amount:
                return level
            for c in coins:
                if front + c > amount:
                    # continue
                    # if coins is sorted
                    break
                if front + c not in steps:
                    queue.append(front + c)
                    steps[front + c] = level + 1
        return -1
```

总结

时间复杂度: $O(S*n)$; 空间复杂度: $O(S)$