

195. You are given a 0-indexed integer array `coins`, representing the values of the coins available, and an integer `target`. An integer `x` is obtainable if there exists a subsequence of coins that sums to `x`. Return the minimum number of coins of any value that need to be added to the array so that every integer in the range `[1, target]` is obtainable. A subsequence of an array is a new non-empty array that is formed from the original array by deleting some (possibly none) of the elements without disturbing the relative positions of the remaining elements.

Program:

```
def minCoinsToAdd(coins, target):  
    coins.sort()  
    max_reachable = 0  
    coins_needed = 0  
    for coin in coins:  
        if coin > max_reachable + 1:  
            break  
        max_reachable += coin  
    while max_reachable < target:  
        max_reachable += max_reachable + 1  
        coins_needed += 1  
    return coins_needed  
  
# Example  
coins = [1, 4, 10]  
target = 19  
print(minCoinsToAdd(coins, target))
```

Output:

```
Output
4
=== Code Execution Successful ===
```

Time complexity: $O(n \log n)$