

CS501 HW6 – Dynamic Programming

Name: Prashanna Raj Pandit

Problem Statement - Min Perfect Squares:

Leetcode problem 279:

```
</> Code
C++  Auto
1  class Solution {
2  public:
3      int numSquares(int n) {
4          // Create a DP array initialized to a large value
5          vector<int> dp(n + 1, INT_MAX);
6          dp[0] = 0; // Base case: 0 requires 0 numbers
7
8          // Precompute all perfect squares less than or equal to n
9          vector<int> squares;
10         for (int i = 1; i * i <= n; ++i) {
11             squares.push_back(i * i);
12         }
13
14         // Fill DP array
15         for (int i = 1; i <= n; ++i) {
16             for (int square : squares) {
17                 if (i < square) break; // If the square is greater than i, stop
18                 dp[i] = min(dp[i], dp[i - square] + 1);
19             }
20         }
21
22         return dp[n];
23     }
24 };
Saved Ln 16, Col 32
☒ Testcase | ☒ Test Result
Accepted Runtime: 0 ms
• Case 1 • Case 2
Input
```

← All Submissions



Accepted

Prashanna Raj Pandit submitted at Nov 23, 2024 10:40

Editorial

Solution

⌚ Runtime



71 ms | Beats 56.18% 🌿

Analyze Complexity

⚙️ Memory

11.49 MB | Beats 49.37%

