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|---|---|
| **Started on** | Tuesday, 19 November 2024, 8:54 PM |
| **State** | Finished |
| **Completed on** | Tuesday, 19 November 2024, 8:57 PM |
| **Time taken** | 3 mins 7 secs |
| **Grade** | **10.00** out of 10.00 (**100**%) |

Question **1**

Correct

Mark 10.00 out of 10.00

**Playing with Numbers:**

Ram and Sita are playing with numbers by giving puzzles to each other. Now it was Ram term, so he gave Sita a positive integer 'n' and two numbers 1 and 3. He asked her to find the possible ways by which the number n can be represented using 1 and 3.Write any efficient algorithm to find the possible ways.

**Example 1:**

***Input:*** *6*
***Output:****6*
***Explanation:*** *There are 6 ways to 6 represent number with 1 and 3*

*1+1+1+1+1+1*
*3+3*
*1+1+1+3*
*1+1+3+1*
*1+3+1+1*
*3+1+1+1*

**Input Format**

First Line contains the number n

**Output Format**

**Print: The number of possible ways 'n' can be represented using 1 and 3**

Sample Input

6

Sample Output

6

**Answer:** (penalty regime: 0 %)

```c
#include <stdio.h>

int main() {
    int n;
    scanf("%d", &n);

    long int dp[n + 1];
    int coins[] = {1, 3};
    int num_coins = sizeof(coins) / sizeof(coins[0]);


    for (int i = 0; i <= n; i++) {
        dp[i] = 0;
    }
    dp[0] = 1;


    for (int j = 1; j <= n; j++) {
        for (int i = 0; i < num_coins; i++) {
            if (j >= coins[i]) {
                dp[j] += dp[j - coins[i]];
            }
        }
    }


    printf("%ld\n", dp[n]);

    return 0;
}
```

| | Input | Expected | Got | |
|---|---|---|---|---|
| ✔ | 6 | 6 | 6 | ✔ |
| ✔ | 25 | 8641 | 8641 | ✔ |
| ✔ | 100 | 24382819596721629 | 24382819596721629 | ✔ |

Passed all tests! ✔

Correct

Marks for this submission: 10.00/10.00.

◄ 5-Implementation of Quick Sort

Jump to...

2-DP-Playing with chessboard ►