###

**36th Annual High School Programming Contest**

| **Sponsored by** |  |
| --- | --- |

##### April 12, 2024

###### Green Problem #5: Dice Rolls

Background Information: In many role playing games, you have dice with different numbers of sides. For this program, you have 6 types of dice: a 4-sided die, a 6-sided die, an 8-sided die, a 10-sided die, a 12-sided die, and a 20-sided die. Each N-sided die is labeled with an integer from 1 to N. Each die is fairly weighed, so any side can be rolled with equal probability.

Given R separate dice are rolled, where 1 <= R <= 6, how many ways can the number K (the sum of the rolled dice) be reached when rolling all R dice?

###### Programming Problem:

Input:  Integer R, followed by R sizes of dice on {4, 6, 8, 10, 12, 20}, followed by a target sum K.

Output: The number of ways K can be rolled with the given dice.

###### Example 1: Input: 1

 6

 3

######  Output:  1

###### Example 2: Input: 2

###### 4

###### 8

###### 10

######  Output:  3

###### Example 3: Input: 3

 20

 10

 20

 2

 Output: 0