REC-CIS

GE23131-Programming Using C-2024

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Question **1**
Correct
Marked out of 3.00

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A set of N numbers (separated by one space) is passed as input to the program. The program must i count of numbers where the number is odd number.

Input Format:

The first line will contain the N numbers separated by one space.

Boundary Conditions:

3 <= N <= 50

The value of the numbers can be from -99999999 to 99999999

Output Format:

The count of numbers where the numbers are odd numbers.

Example Input / Output 1:

Input:

5 10 15 20 25 30 35 40 45 50

Output:

5

Explanation:

The numbers meeting the criteria are 5, 15, 25, 35, 45.

Answer: (penalty regime: 0 %)

	Input		Expected	Got	
	5 10 15 20 25 30 35 40 45 50		5		5	

Passed all tests!

Question 2

Correct

Marked out of 5.00

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Given a number N, return true if and only if it is a *confusing number*, which satisfies the following co

We can rotate digits by 180 degrees to form new digits. When 0, 1, 6, 8, 9 are rotated 180 degrees, th 0, 1, 9, 8, 6 respectively. When 2, 3, 4, 5 and 7 are rotated 180 degrees, they become invalid. A *confus number* is a number that when rotated 180 degrees becomes a **different** number with each digit val

Example 1:

6 -> 9

Input: 6

Output: true

Explanation:

We get 9 after rotating 6, 9 is a valid number and 9!=6.

Example 2:

89 -> 68

Input: 89

Output: true

Explanation:

We get 68 after rotating 89, 86 is a valid number and 86!=89.

Example 3:

11 -> 11

Input: 11

Output: false

Explanation:

We get 11 after rotating 11, 11 is a valid number but the value remains the same, thus 11 is not a co number.

Note:

1. $0 <= N <= 10^9$

2.   After the rotation we can ignore leading zeros, for example if after rotation we have 0008 then is considered as just 8.

	Input	Expected	Got	
	6	true	true	
	89	true	true	
	25	false	false	

Passed all tests!

Question **3**

Correct

Marked out of 7.00

☐⚐ Flag question

A nutritionist is labeling all the best power foods in the market. Every food item arranged in a single have a value beginning from 1 and increasing by 1 for each, until all items have a value associated w An item's value is the same as the number of macronutrients it has. For example, food item with valu macronutrient, food item with value 2 has 2 macronutrients, and incrementing in this fashion.

The nutritionist has to recommend the best combination to patients, i.e. maximum total of macronut However, the nutritionist must avoid prescribing a particular sum of macronutrients (an 'unhealthy' n and this sum is known. The nutritionist chooses food items in the increasing order of their value. Cor highest total of macronutrients that can be prescribed to a patient, without the sum matching the gi 'unhealthy' number.

Here's an illustration:

Given *4* food items (hence value: *1,2,3* and *4*), and the unhealthy sum being *6* macronutrients, on cho items *1, 2, 3* -> the sum is *6*, which matches the 'unhealthy' sum. Hence, one of the three needs to be Thus, the best combination is from among:

·   *2 + 3 + 4 = 9*

·   *1 + 3 + 4 = 8*

·   *1 + 2 + 4 = 7*

Since *2 + 3 + 4 = 9,* allows for maximum number of macronutrients, 9 is the right answer.

Complete the code in the editor below. It must return an integer that represents the maximum total macronutrients, modulo *1000000007 (10^9 + 7).*

It has the following:

   n: an integer that denotes the number of food items

   k: an integer that denotes the unhealthy number

Constraints

·   *1 ≤ n ≤ 2 × 10^9*

·   *1 ≤ k ≤ 4 × 10^{15}*

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The first line contains an integer, n, that denotes the number of food items.

The second line contains an integer, k, that denotes the unhealthy number.

Sample Input 0

2
2

Sample Output 0

3

Explanation 0

The following sequence of $n = 2$ food items:

1. Item 1 has 1 macronutrients.
2. $1 + 2 = 3$; observe that this is the max total, and having avoided having exactly $k = 2$ macronut

Sample Input 1

2
1

Sample Output 1

2

Explanation 1

1. Cannot use item 1 because $k = 1$ and $sum \equiv k$ has to be avoided at any time.
2. Hence, max total is achieved by $sum = 0 + 2 = 2$.

Sample Case 2

Sample Input For Custom Testing

Sample Input 2

3
3

Sample Output 2

5

Explanation 2

$2 + 3 = 5$, is the best case for maximum nutrients.

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	Input	Expected	Got	
	2 2	3	3	
	2 1	2	2	
	3 3	5	5	

Passed all tests!

Save the state of the flags