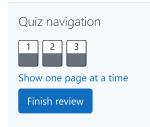
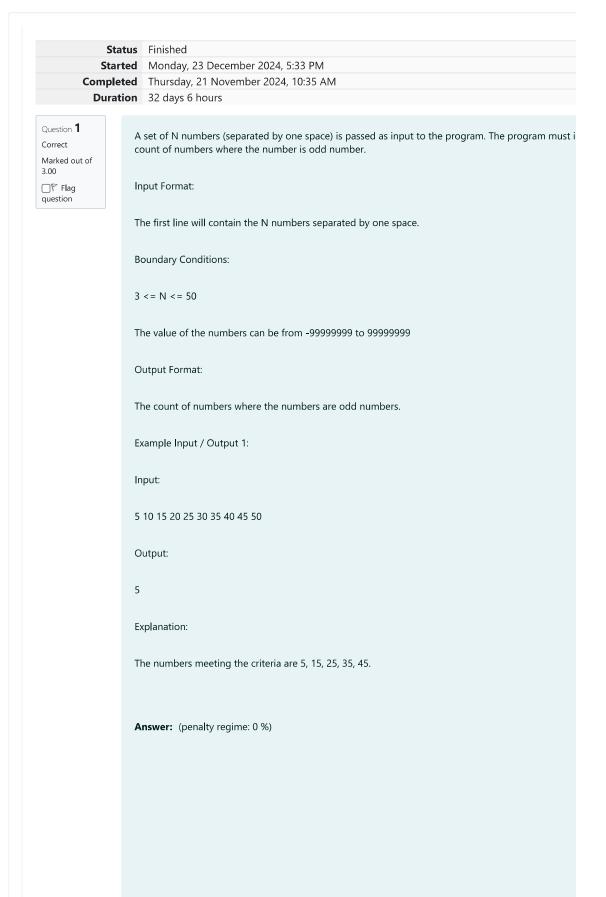
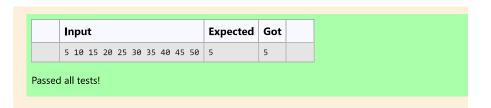
GE23131-Programming Using C-2024







Question **2**Correct

Marked out of

□ Flag question Given a number N, return true if and only if it is a confusing number, which satisfies the following cor

We can rotate digits by 180 degrees to form new digits. When 0, 1, 6, 8, 9 are rotated 180 degrees, tl 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 connumber.

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 value 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 characteristic 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

- $1 \le n \le 2 \times 10^9$
- $1 \le k \le 4 \times 10^{15}$

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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: Item 1 has 1 macronutrients. 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** Cannot use item 1 because k = 1 and $sum \equiv k$ has to be avoided at any time. 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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Save the state of the flags