REC-CIS

GE23131-Programming Using C-2024

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Question **1**

Correct

Marked out of 3.00

Flag question

A set of N numbers (separated by one space) is passed as input to the program. The program 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 %)

```c
#include<stdio.h>

int main()
{
    int n,x=0;
    while(scanf("%d",&n)==1)
    {
        if(n%2!=0)
        {
            x++;
        }
    }
    printf("%d", x);
```

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```
17
```

	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

Flag question

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

We can rotate digits by 180 degrees to form new digits. When 0, 1, 6, 8, 9 are rotated 180 deg
When 2, 3, 4, 5 and 7 are rotated 180 degrees, they become invalid. A *confusing number* is a
a **different** number with each digit valid.

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 n

Note:

1. 0 <= N <= 10^9
2. After the rotation we can ignore leading zeros, for example if after rotation we have 000

Answer: (penalty regime: 0 %)

```c
#include<stdio.h>
int main()
{
    int n,x,y=1;
    scanf("%d",&n);
    while(n!=0 && y==1)
    {
        x=n%10;
        n=n/10;
```

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```
        }
    }
    if(y==1)
    {
        printf("true");
    }

    else{
        printf("false");
    }
}
```

	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 and increasing by 1 for each, until all items have a value associated with them. An item's valu has. For example, food item with value 1 has 1 macronutrient, food item with value 2 has 2 m

The nutritionist has to recommend the best combination to patients, i.e. maximum total of m avoid prescribing a particular sum of macronutrients (an 'unhealthy' number), and this sum is the increasing order of their value. Compute the highest total of macronutrients that can be p matching the given 'unhealthy' number.

Here's an illustration:

Given *4* food items (hence value: *1,2,3* and *4*), and the unhealthy sum being *6* macronutrients matches the 'unhealthy' sum. Hence, one of the three needs to be skipped. Thus, the best cor

- *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 maximu *(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

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

Input Format For Custom Testing

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.

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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* m

Sample Input 1

2

1

Sample Output 1

2

Explanation 1

1. Cannot use item *1* because *k = 1* and *sum* ≡ *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.

Answer: (penalty regime: 0 %)

```c
#include<stdio.h>

int main()
{
    long long int n,t,i,nut=0;
    scanf("%lld %lld", &n, &t);
    for (i=1;i<=n;i++)
```

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```
10          if(nut==t)
11          {
12              nut=nut-1;
13          }
14      }
15      printf("%lld", nut%1000000007);
16  }
17
```

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

Passed all tests!