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Alternate Digit Sum

Sahil is a creative genius (or so he likes to call himself). He is given a number and wants to add its digits with alternate signs (i. e. + and -) e.g. if the given digit is 896, sahil will do $+8 + (-9) + (+6)$ and return 5 as answer. First sign will be positive.

Write a C program to help Sahil achieve the same functionality in C.

Input Format:

A positive integer as input

Output Format:

The sum of its digits from left with alternate signs.

Sample input 1 : 8796

Sample output 1: 4

Explanation $+8 + (-7) + 9 + (-6) = 4$

Sample input 2 : 9999

Sample output 2: 0

C (gcc 4.8.3) ▼



▶ Compile & Run

O/P »

```
1  #include<stdio.h>
2
3  int main(){
4      // input
5      int n;
6      scanf("%d",&n);
7
8      // find len of int
9      int num = n;
10     int noOfDig = 0;
11     while(num != 0){
12         noOfDig++;
13         num /= 10;
14     }
15
16     // our algo will work from end to start of 'n'
17     int sum = 0;
18     int sign = (noOfDig % 2)? 1 : -1; // when odd length then sign is initia
19     num = n;
20     while(num != 0){
21         sum += (num%10 * sign);
22
23         sign *= -1; // flip the sign
24         num /= 10;
25     }
26
27     // output
28     printf("%d",sum);
29 }
```

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