Crying Series

Monir is a student of class 8. He loves to learn new logic from Mathematics. Divergent Geometric Series is an interesting topic to him. So, He starts practicing to find the sum of the series in his everyday life. So he pick a standard series for *N*th term,

$F(x) = (-1)^{*}1 + (-1)^{2} * 2 + (-1)^{3} * 3 + ... + (-1)^{N} * N$

In this case, He asks for your help to find the value (algebraic sum) of *F(x)* from given series. As you are a great programmer in our country.

Input

Every line of the input contains a single integer *N* denoting the number of terms in the series.

Constraints

- $0 \leq N \leq 10^{15}$

Output

For each test case, print a single line and the value (algebraic sum of all elements) of *F(x)* from given series.

Example

Input:
0
1
2
Output:
0
-1
1