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Sum vs XOR   🔒 locked

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Given an integer, n, find each x such that:

- $0 \le x \le n$
- $n + x = n \oplus x$

where $\oplus$ denotes the bitwise XOR operator. Then print an integer denoting the total number of x's satisfying the criteria above.

Input Format

A single integer, n.

Constraints

- $0 \le n \le 10^{15}$

Subtasks

- $0 \le n \le 100$ for **60%** of the maximum score.

Output Format

Print the total number of integer x's satisfying both of the conditions specified above.

Sample Input 0

```
5
```

Sample Output 0

```
2
```

Explanation 0

For $n = 5$, the x values 0 and 2 satisfy the conditions:

- $5 + 0 = 5 \oplus 0 = 5$
- $5 + 2 = 5 \oplus 2 = 7$

Thus, we print 2 as our answer.

Sample Input 1

```
10
```

Sample Output 1
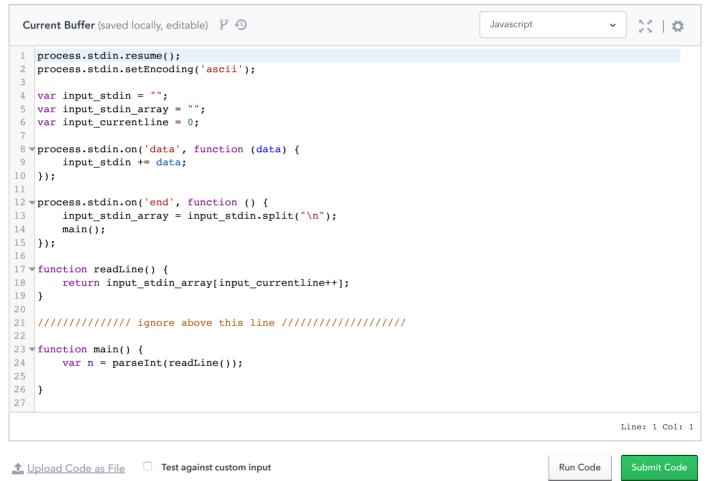
```
4
```

Explanation 1

For $n = 10$, the x values 0, 1, 4, and 5 satisfy the conditions:

- $10 + 0 = 10 \oplus 0 = 10$

- $10 + 1 = 10 \oplus 1 = 11$

- $10 + 4 = 10 \oplus 4 = 14$

- $10 + 5 = 10 \oplus 5 = 15$

Thus, we print 4 as our answer.

Submissions: 1894

Max Score: 25

Difficulty: Easy

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More

| **Current Buffer** (saved locally, editable) | Javascript ▾ |

```javascript
 1  process.stdin.resume();
 2  process.stdin.setEncoding('ascii');
 3
 4  var input_stdin = "";
 5  var input_stdin_array = "";
 6  var input_currentline = 0;
 7
 8  process.stdin.on('data', function (data) {
 9      input_stdin += data;
10  });
11
12  process.stdin.on('end', function () {
13      input_stdin_array = input_stdin.split("\n");
14      main();
15  });
16
17  function readLine() {
18      return input_stdin_array[input_currentline++];
19  }
20
21  /////////////// ignore above this line ////////////////////
22
23  function main() {
24      var n = parseInt(readLine());
25
26  }
27
```

Line: 1 Col: 1

⬆ Upload Code as File   ☐ Test against custom input   Run Code   Submit Code

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