Lowest Bit

Time Limit: 2000 ms Memory Limit: 65536 KB

Given an positive integer A (1 <= A <= 100), output the lowest bit of A.

For example, given A = 26, we can write A in binary form as 11010, so the lowest bit of A is 10, so the output should be 2.

Another example goes like this: given A = 88, we can write A in binary form as 1011000, so the lowest bit of A is 1000, so the output should be 8.

Input

Each line of input contains only an integer A (1 <= A <= 100). A line containing "0" indicates the end of input, and this line is not a part of the input data.

Output

For each A in the input, output a line containing only its lowest bit.

Sample Input

```
26
88
0
```

Sample Output

```
2
8
```

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