Day 10: Binary Numbers

Objective

Today, we're working with binary numbers. Check out the Tutorial tab for learning materials and an instructional video!

Task

Given a base-10 integer, n, convert it to binary (base-2). Then find and print the base-10 integer denoting the maximum number of consecutive 1's in n's binary representation. When working with different bases, it is common to show the base as a subscript.

Example

$n = 125$

The binary representation of 125_{10} is 1111101_2. In base 10, there are 5 and 1 consecutive ones in two groups. Print the maximum, 5.

Input Format

A single integer, n.

Constraints

- $1 \leq n \leq 10^6$

Output Format

Print a single base-10 integer that denotes the maximum number of consecutive 1's in the binary representation of n.

Sample Input 1

```
5
```

Sample Output 1

```
1
```

Sample Input 2

```
13
```

Sample Output 2

```
2
```

Explanation

Sample Case 1:
The binary representation of 5_{10} is 101_2, so the maximum number of consecutive 1's is 1.

Sample Case 2:
The binary representation of 13_{10} is 1101_2, so the maximum number of consecutive 1's is 2.