You will be given a list of 32 bit unsigned integers. Flip all the bits ($1 \rightarrow 0$ and $0 \rightarrow 1$) and print the result as an unsigned integer.

For example, your decimal input $n = 9_{10} = 1001_2$. We're working with 32 bits, so:

$00000000000000000000000000001001_2 = 9_{10}$
$11111111111111111111111111110110_2 = 4294967286_{10}$

Function Description

Complete the *flippingBits* function in the editor below. It should return the unsigned decimal integer result.

flippingBits has the following parameter(s):

- *n*: an integer

Input Format

The first line of the input contains q, the number of queries.
Each of the next q lines contain an integer, n, to process.

Constraints

$1 \leq q \leq 100$
$0 \leq n < 2^{32}$

Output Format

Output one line per element from the list with the decimal value of the resulting unsigned integer.

Sample Input 0

```
3
2147483647
1
0
```

Sample Output 0

```
2147483648
4294967294
4294967295
```

Explanation 0

$01111111111111111111111111111111_2 = 2147483647_{10}$
$10000000000000000000000000000000_2 = 2147483648_{10}$

$00000000000000000000000000000001_2 = 1_{10}$
$11111111111111111111111111111110_2 = 4294967294_{10}$

$00000000000000000000000000000000_2 = 0_{10}$
$11111111111111111111111111111111_2 = 4294967295_{10}$

Sample Input 1

```
2
4
123456
```

Sample Output 1

```
4294967291
4294843839
```

Explanation 1

$00000000000000000000000000000100_2 = 4_{10}$
$11111111111111111111111111111011_2 = 4294967291_{10}$

$00000000000000001111000100100000_2 = 123456_{10}$
$11111111111111100001110110111111_2 = 4294843839_{10}$

Sample Input 2

```
3
0
802743475
35601423
```

Sample Output 2

```
4294967295
3492223820
4259365872
```

Explanation 2

$00000000000000000000000000000000_2 = 0_{10}$
$11111111111111111111111111111111_2 = 4294967295_{10}$

$00101111101100011100100101100011_2 = 802743475_{10}$
$11010000010011100011011010011100_2 = 3492223820_{10}$

$00000010000111110011110000001111_2 = 35601423_{10}$
$11111011110000011000011111110000_2 = 4259365872_{10}$