

Enchanted Cat

Input file: **standard input**
Output file: **standard output**
Time limit: 1 second
Memory limit: 256 megabytes

The cat Miston is interested in non-negative numbers with n digits and is fascinated by powers of two. Help the cat determine how many n -digit numbers are divisible by 2^x without a remainder.

Input

The first line contains an integer n — the number of digits in the interesting numbers ($1 \leq n \leq 18$).

The second line contains an integer x — the exponent in the expression 2^x ($1 \leq x \leq 60$).

Output

Output a single number — the sought quantity.

Scoring

Subtask	Points	Additional constraints	Required groups	Comment
0	0	—	—	Tests from the statement.
1	10	$x = 1$	—	—
2	10	$x \leq 2$	1	—
3	10	$x \leq 3$	0–2	—
4	20	$n \leq 6; x \leq 20$	0	—
5	25	$x < n$	—	—
6	10	$x \geq 40$	0, 4	—
7	15	—	0–6	—

Example

standard input	standard output
3 3	112

Explanation

The suitable numbers are 104, 112, ..., 992.