

29. Divide Two Integers

Given two integers dividend and divisor, divide two integers **without** using multiplication, division, and mod operator.

The integer division should truncate toward zero, which means losing its fractional part. For example, 8.345 would be truncated to 8, and -2.7335 would be truncated to -2.

Return *the quotient after dividing* dividend *by* divisor.

Note: Assume we are dealing with an environment that could only store integers within the 32 -bit signed integer range: $[-2^{31}, 2^{31} - 1]$. For this problem, if the quotient is **strictly greater than** $2^{31} - 1$, then return $2^{31} - 1$, and if the quotient is **strictly less than** -2^{31} , then return -2^{31} .

Example 1:

Input: dividend = 10, divisor = 3

Output: 3

Explanation: $10/3 = 3.33333\dots$ which is truncated to 3.

Example 2:

Input: dividend = 7, divisor = -3

Output: -2

Explanation: $7/-3 = -2.33333\dots$ which is truncated to -2.

Constraints:

$-2^{31} \leq \text{dividend}$, $\text{divisor} \leq 2^{31} - 1$

divisor $\neq 0$

