

Detect if two integers have opposite signs

Given two signed integers, write a function that returns true if the signs of given integers are different, otherwise false. For example, the function should return true -1 and +100, and should return false for -100 and -200. The function should not use any of the arithmetic operators.

Let the given integers be x and y. The sign bit is 1 in negative numbers, and 0 in positive numbers. The XOR of x and y will have the sign bit as 1 if they have opposite sign and 0 if they have the same sign bit.