You are working on problem set:
Homework 2 (Pause)

bitmask3

Language/Type: C C bitwise operators bit manipulation
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Assume x and y are 32-bit signed `int`s and that right-shift performs an arithmetic (not logical) shift. For each listed expression, work out what result it produces.

.
.
.

`1 << x`

a. ○ clears lowest "on" bit in x
b. ◉ 2 to the x power
c. ○ -x, arithmetic negation
d. ○ -1 if x was negative, 0 otherwise

(order shuffled)

`~x + 1`

a. ○ -1 if x was negative, 0 otherwise
b. ◉ -x, arithmetic negation
c. ○ clears lowest "on" bit in x
d. ○ 2 to the x power

(order shuffled)

`x >> 31`

a. ◉ -1 if x was negative, 0 otherwise
b. ○ -x, arithmetic negation
c. ○ 2 to the x power
d. ○ clears lowest "on" bit in x

(order shuffled)

`x &= (x - 1)`

a. ◉ clears lowest "on" bit in x
b. ○ 2 to the x power
c. ○ -1 if x was negative, 0 otherwise
d. ○ -x, arithmetic negation

(order shuffled)

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You passed 4 of 4 tests.

#	question	your answer	result
1	`1 << x`	2 to the x power	pass
2	`~x + 1`	-x, arithmetic negation	pass
3	`x >> 31`	-1 if x was negative, 0 otherwise	pass
4	`x &= (x - 1)`	clears lowest "on" bit in x	pass

Need help?

Stuck on an exercise? Contact your TA or instructor.

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