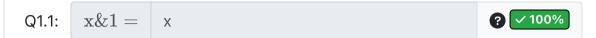
9/3/22, 11:17 PM HW2.1 - CS 61C | PrairieLearn

HW2.1. Bitwise Operations

C provides bitwise commands for AND(&), OR(|), XOR(^), and NOT(~).

Let x be a single-bit input (i.e. can be either 0 or 1). Fill in the following blanks with either 0, 1, x, or \sim x. Putting x means that x is the output (no change), and \sim x means that the opposite of x is the output.

Tip: Review AND, OR, XOR logic. What is the corresponding output for different input combinations using these logic?



Q1.2:
$$x\&0 = 0$$

Q1.3:
$$x \mid 1 = 1$$

Q1.4:
$$x \mid 0 = x$$

Q1.5:
$$x^1 = -x$$

Based on your responses above, which operation would be useful for:

Q2.1: turning bits ON (i.e. setting bits to 1)?

Χ

○ (a) &

Q1.6:

 $x^0 =$

- (b)
- (c) ^

~ 100%

Q2.2: turning bits OFF (i.e. setting bits to 0)?

- (a) &
- (b)
- (c) ^

100%

Q2.3: flipping bits (i.e. changing bits from 0 to 1 or from 1 to 0)?

- (a) &
- (b)
- (c) ^ <

100%

Try a new variant

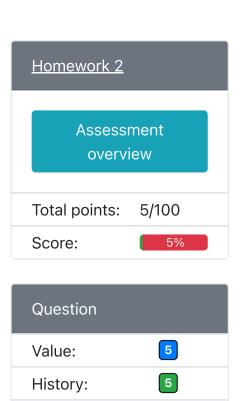
? 100%

Correct answer

C provides bitwise commands for AND(&), OR(|), XOR(^), and NOT(~).

Let x be a single-bit input (i.e. can be either 0 or 1). Fill in the following blanks with either 0, 1, x, or \sim x. Putting x means that x is the output (no change), and \sim x means that the opposite of x is the output.

Tip: Review AND, OR, XOR logic. What is the corresponding output for different input combinations using these logic?



Previous question

Next question

Awarded points: 5/5

Report an error in this question ■

Attached files
No attached files

Attach a file 🗹

Q1.1: x&1 = x

Q1.2: x&0 = 0

Q1.3: $x \mid 1 = 1$

Q1.4: $x \mid 0 = x$

Q1.5: $x^1 = -x$

Q1.6: $x^0 = x$

Based on your responses above, which operation would be useful for:

Q2.1: turning bits ON (i.e. setting bits to 1)?

(b)

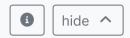
Q2.2: turning bits OFF (i.e. setting bits to 0)?

(a) &

Q2.3: flipping bits (i.e. changing bits from 0 to 1 or from 1 to 0)?

(c) ^

Submitted answer 2 **correct: 100%**Submitted at 2022-09-03 08:17:10 (PDT)



C provides bitwise commands for AND(&), OR(|), XOR(^), and NOT(~).

Let x be a single-bit input (i.e. can be either 0 or 1). Fill in the following blanks with either 0, 1, x, or \sim x. Putting x means that x is the output (no change), and \sim x means that the opposite of x is the output.

Tip: Review AND, OR, XOR logic. What is the corresponding output for different input combinations using these logic?

Q1.1: x&1 = x 100%

Q1.2: $x\&0 = \emptyset$ \checkmark 100%

Q1.3: $x \mid 1 = 1$ 100%

Q1.4: $x \mid 0 = x$ 100%

Q1.5: $x^1 = -x$ 100%

Q1.6: $x^0 = x$ 100%

Based on your responses above, which operation would be useful for:

Q2.1: turning bits ON (i.e. setting bits to 1)?

(b) | **100**%

Q2.2: turning bits OFF (i.e. setting bits to 0)?

(a) & < 100%

Q2.3: flipping bits (i.e. changing bits from 0 to 1 or from 1 to 0)?

(c) ^ \left\ 100%

Submitted answer 1 invalid, not gradable
Submitted at 2022-09-03 08:15:46 (PDT)

