CSC258 Quiz 5

You will be able check the correctness of your answers and the points you get immediately after submitting your answers. You may submit answers multiple times. Your score will be computed using your latest submission before the deadline, and the score you get will be scaled down by a factor of 0.9 for each try you make. The final scores you get in each quiz will be posted on MarkUs.
Make sure to provide the correct UTORID and Student Number. Answers with mismatching UTORID and Student Number will be discarded. The information you provide will be only be visible to the course instructor.

The quiz mark will be pre-released on MarkUs on Friday between 1pm~6pm. You may check your correctness and re-attempt the quiz to get higher marks before the Sunday deadline.

Open until Sunday, Feb 12, 10:00 PM

Your Name *

Anthony Tam

Your UTORID *
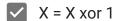
tamanth2

Your Student Number *

1002583402

Question 1: Assuming A and B are 32-bit signed integers, which of the following arithmetic operations can NEVER set the output signal V of the ALU (i.e., never cause an overflow)? Circle all that apply, and points are only given to perfectly correct choices. *

- [ ] A + B, where A > 0 and B > 0

- [ ] A + B, where A < 0 and B < 0

- [x] A + B, where A > 0 and B < 0

- [x] A + B, where A < 0 and B > 0

- [ ] A - B, where A > 0 and B > 0

- [ ] A - B, where A < B and B < 0

- [ ] A - B, where A > 0 and B < 0

- [ ] A - B, where A < 0 and B > 0

- [ ] none of above

Question 2: Which ones of following operations *invert* a single-bit input X? Circle all that apply, and points are only given to perfectly correct choices. *

- [ ] X = X xor 0

☑ X = X xor 1

☐ X = X nand 0

☑ X = X nand 1

☐ X = X nor 0

☑ X = X nor 1

☑ X = X xnor 0

☐ X = X xnor 1

☐ none of above

Question 3: Which one of the following values for the selection bits (S2S1S0) makes the ALU output the result of A xor B? Review the lecture slides to find the answer. *

○ 000

○ 001

○ 010

○ 011

○ 100

○ 101

◉ 110

○ 111

Question 4: Which one of the following multiplications is equivalent to: (x << 3) + (x << 2) - x, where "<<" is the left bit-shift operator. *

○ x * 2

⬛!

○ x * 3

○ x * 4

○ x * 5

○ x * 6

○ x * 7

○ x * 8

○ x * 9

○ x * 10

◉ x * 11

○ x * 12

○ x * 13

○ x * 14

○ x * 15

○ x * 16

○ none of above

(Not For Points) How much do you feel that you have learned something by doing this quiz?

	1	2	3	4	5	6	7	
learned nothing	○	○	○	◉	○	○	○	learned a lot

Google Forms