CSC258 Quiz 2

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-release 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, January 22, 10:00 PM

Your Name *

Anthony Tam

Your UTORID *

tamanth2

Your Student Number *

1002583402

Question 1: Write -6 (minus six) as a signed 4-bit binary number. *

○ 0000

○ 0001

○ 0010

○ 0011

○ 0101

○ 0110

○ 0111

○ 1000

○ 1001

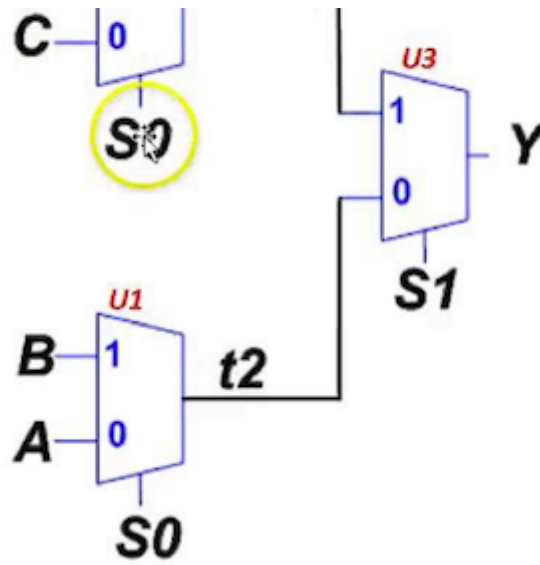◉ 1010

○ 1011

○ 1100

○ 1101

○ 1110

○ 1111

○ None of above

Question 2: Add two signed 4-bit integers 5 and 6, what result (also a 4-bit signed integer) will be produced? *

○ 3

○ 5

○ 6

○ 7

○ 9

○ 11

○ 12

○ 13

○ 14

○ 15

○ 16

○ -1

○ -3

◉ -5

○ -7

○ -8

○ -9

○ -10

○ -11

○ None of above

Question 3: Consider the following circuit, what is the output Y
when S0 = 0 and S1 = 1 ? *

U2

D─1   t1

C — 0

$S0$

U3

1

Y

0

$S1$

U1

B — 1 $t2$

A — 0

$S0$
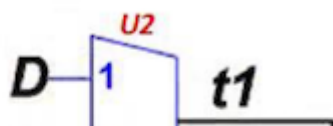
○ A

○ B

◉ C

○ D

○ None of above

Question 4: What's the size of the smallest box in the optimal covering of the following K-map? *

$$\overline{X}_1 \cdot \overline{X}_0 \qquad \overline{X}_1 \cdot X_0 \qquad X_1 \cdot X_0 \qquad X_1 \cdot \overline{X}_0$$

$\overline{X_3} \cdot \overline{X_2}$	0	1	1	0
$\overline{X_3} \cdot X_2$	0	X	0	0
$X_3 \cdot X_2$	1	X	X	X
$X_3 \cdot \overline{X_2}$	0	X	X	0

○ 1

○ 2

○ 3

◉ 4

○ 5

○ 6

○ 7

○ 8

○ 9

○ None of above

Question 5: Suppose we use 2-to-1 muxes to implement a 258-to-1
mux. What is the minimum number of 2-to-1 muxes needed to
implement the 258-to-1 mux? *

○ 1

○ 2

○ 3

○ 6

○ 7

○ 8

○ 9

○ 127

○ 128

○ 129

○ 130

○ 258

◉ 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