CSC258 Quiz 6

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 evening and Saturday evening. You may check your correctness and re-attempt the quiz to get higher marks before the Sunday deadline.

Open until Sunday, March 5, 10:00 PM

Your Name *

Anthony Tam

Your UTORID *

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Your Student Number *

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Question 1: A word-addressable RAM unit has 12 address bits. How many bytes is the RAM unit able to store? Note: A word is 4 bytes, and word-addressable means each word has a unique address. *

- ○ 1KB
- ○ 2KB
- ○ 4KB
- ○ 8KB
- ◉ 16KB
- ○ 32KB
- ○ 64KB
- ○ none of above

Question 2: Consider this R-type instruction: 0000 0000 0110 0101 0100 0000 0010 0111. Which type operation does it do? Review the lecture slides to find necessary information. *

- ○ add

- ○ sub
- ○ and
- ◉ nor
- ○ or
- ○ xor
- ○ sll
- ○ srl
- ○ sra
- ○ slt
- ○ jr
- ○ none of above

Question 3: For the same instruction as in Question 2. Which register is the calculation result stored in? *

- ○ 0
- ○ 1

- 2
- 3
- 4
- 5
- 6
- 7
- 8 (selected)
- 9
- 10
- 11
- 12
- 13
- 14
- 15
- 16
- 24
- 28
- 31
- none of above

Question 4: Consider this I-type instruction (BNE, branch on not equal): 0001 0100 1010 1001 1111 1111 1110 1111. When the NE condition is satisfied, what is the change of the PC value, i.e., PC = PC + _____? *

- 0

- ○ 4
- ○ -4
- ○ 14
- ○ 15
- ○ 16
- ○ -14
- ○ -15
- ○ -16
- ○ 56
- ○ 60
- ○ 64
- ○ -56
- ○ -60
- ○ -64
- ◉ none of above

Question 5: In a Jump (J) instruction, PC changes by an offset, i.e., PC = PC + offset. How large is the range of possible offset values (the difference between the most positive possible offset and the most negative possible offset)? Write your answer in terms of a power of 2. *

- ○ 2^32 = 4GB
- ○ 2^31 = 2GB
- ○ 2^30 = 1GB
- ○ 2^29 = 512MB
- ○ 2^28 = 256MB
- ○ 2^27 = 128MB
- ◉ 2^26 = 64MB
- ○ 2^25 = 32MB
- ○ 2^24 = 16MB
- ○ 2^20 = 1MB
- ○ 2^18 = 256KB
- ○ 2^16 = 64KB
- ○ 2^14 = 16KB
- ○ 2^12 = 4KB
- ○ 2^10 = 1KB
- ○ 2^8 = 256B
- ○ 2^4 = 16B
- ○ 2B

(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

Nothing
