

**York University**  
**Lassonde School of Engineering**  
Dept. of Electrical Engineering and Computer Science  
EECS2021  
Computer Organization  
Fall 2015  
LAB B

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EECS2021

Lab Test 1\_4

Computer Organization

Tuesday, Oct. 20<sup>th</sup>, 2015

7:00– 9:30pm

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**Be sure that your program ends with “jr \$ra” for the program to complete execution without error message.**

**Question 1** (6 points)

Write an assembly code to read two numbers (x and y). Then display on the console the number z such that:

if both x and y are positive (greater than 0) z= 1

else if both x and y are negative (less than 0) z= -1

else z=0

**Question 2** (7 points)

Write an assembly program that reads two numbers from the console, then calculate the multiplication of these two numbers using repetitive addition and display the result on the console ( $3 \times 5 = 3+3+3+3+3$ ). The numbers could be positive or negative; you should display the result in signed format. If the two numbers are -3 and 5, you should display -15. **Do not use mul instruction.**

**Question 3** (7 points)

Write an assembly code to read an integer from the console, replace bit 3 by the ANDing of bit 0 and bit 1, where bit 0 is the least significant bit. Display it as an integer.

For example if you read 13, that is 00000000\_00000000\_00000000\_00001101

The result is 0, replace bit 3 by 0

You get 00000000\_00000000\_00000000\_00000100 submit as Q3.s

And these 2 bits

bit 3

**Submit your program using the following command in a terminal (make sure you are in the directory containing your file Q?.s):**

**submit 2021 lab1\_T\_2 Q?.s where “?” refers to 1, 2, and 3**