Good day, Sir. This is my laboratory defense for Lab #5. This program accepts two integers and outputs their results after undergoing bitwise operations.

In our segment data, we simply have here the necessary output strings for this Lab.

In the segment bss, we have 5 uninitialized data. The first two here in lines 24 and 25 are for the user input of the two numbers. The following 3 are the storage of the results of the bitwise operations. One for the AND operation, one for the OR operation, and one for the XOR operation.

Proceeding to our main program, starting here in line 45 we just simply print the query message, and then in line 47 is where the first input number will be read, and then stored into the [num1] variable in the next line. Same goes for lines 50 to 53, in which the second user input is read and stored into [num2] variable.

The next block of codes from 58 to 69 is where the bitwise operations are happening. First, we have the AND operation starting in line 58. First we store the 1st user input in the EAX register, then in the next line, we ANDed the EAX register with the 2nd user input. The result of the AND operation will be stored in the EAX register, that’s why in the next line, we store it into the [andNum] variable. Same logic is applied in the OR operation in the next three lines. 1st user input is stored in the EAX register, then the EAX register is ORed by the 2nd user input, then the result in the EAX register is stored in the [orNum] variable. Same goes for the XOR process in lines 66 to 68.

The last long block of code starting from line 72 to 107 is responsible for displaying the results. Lines 72 to 81 prints the result of the AND operation, lines 85 to 94 prints the results of the OR operation, and lines 98 to 107 prints the results of the XOR operation. I will only explain the AND result because the logic is the same with the OR and XOR results. In line 72 and 73 the 1st user input is printed, in line 74 and 75 the bitwise operation symbol is printed, in line 76 and 77 the 2nd user input is printed, in line 78 and 79 prints the ”is” string, and finally in line 80 and 81 prints the result of the AND operation stored in the andNum variable. That’s basically it for printing the result of the AND bitwise operation. The same logic for the printing of OR and XOR results.

That’s it for my defense on Lab5, thank you for listening!