CmpE230 Homework 2 Documentation

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Input Taking

We take inputs one by one and than converted it to decimal. Since we receive inputs in hexadecimal format we need to convert it to decimal. In hex there are extra digits like A,B,C,D,F,and G. We have substracted necessary ascii characters from those and get a decimal number.

Output

While we are giving our output, we have encountered the same problem with the input. Since we made our calculations in base 10. We had to convert it first into hex before giving output. To handle this problem we have divided the number to 16 in a continuous manner and added necessary ASCII elements.

Processing Logic of Expressions

In order to calculate an expression that has been given in post-fix notation we have utilized built-in stack in Assembly. Fırst we have pushed all given elements to our stack until we encounter an operation. When we encounter an operation, we popped out two elements and applied the operation to this two elements. Then we pushed the result back into stack. So that we could continue our process until just one element stays in the stack. The only remaining element in the stack will be our result.

Operations
We need to execute addition, multiplication, integer division, bitwise xor, bitwise and and bitwise or operations. Those were available in assembly. We made use of them since we have already converted our numbers to decimal.

Encountered Problems
We have encountered an error called jmp > 128. This error took 1 hour of us to solve and than we have learned that jmp command doesn't work over 128 lines.