BLG222E - Computer Organization
Assignment I

Design a $4-bit$ register (shown in the figure) that has 2 $4-bit$ input (A and B), $1-bit$ control input (s) and $4-bit$ output. This register should compare A and B **as unsigned integers** and if $s = 0$, then $Q^+ = min(A, B)$ and if $s = 1$, then $Q^+ = max(A, B)$. For example, if the inputs of this register are $A = 0111$ and $B = 1000$: $Q^+ = 0111$ if $s = 0$ and $Q^+ = 1000$ if $s = 1$.

You should use D flip-flops, adder, multiplexer, logic gates etc. in your design. Implement your design in Logisim software, save your design in *.circ* format, and upload it to Ninova before its deadline.