Name _____   Box _____   Due date: Tuesday, April 16

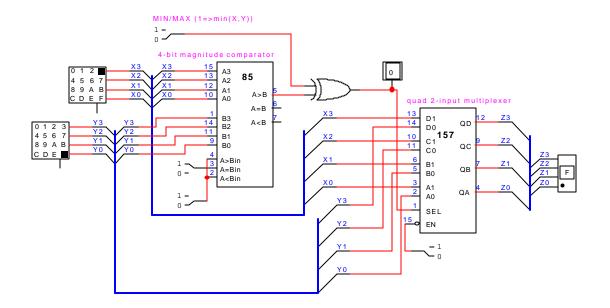ECE130   Homework #13   Spring 2001

1   Design a combinational circuit whose inputs are two 4-bit unsigned binary integers, X
     and Y, and a control signal MIN/MAX. The output of the circuit is a 4-bit unsigned binary
     integer Z such that Z=0 if X=Y; otherwise, Z=min(X,Y) if MIN/MAX=1, and Z=max(X,Y) if
     MIN/MAX=0.

     Use a 74LS85 and a 74LS157 and necessary gates to implement your design on
     LogicWorks 4. Use buses to connect data lines. Use hex keypads and hex display to
     verify your design.

     Connect input pins A>Bin and A<Bin to "0" and A=Bin to "1".

     Submit a paper copy of your solution and also email your solution to
     Jianjian.song@rose-hulman.edu. Your solution should contain your LogicWorks 4
     schematic and your design procedure and explanation.

The following circuit was discussed in class and its LogicWork file is sent to you by email.