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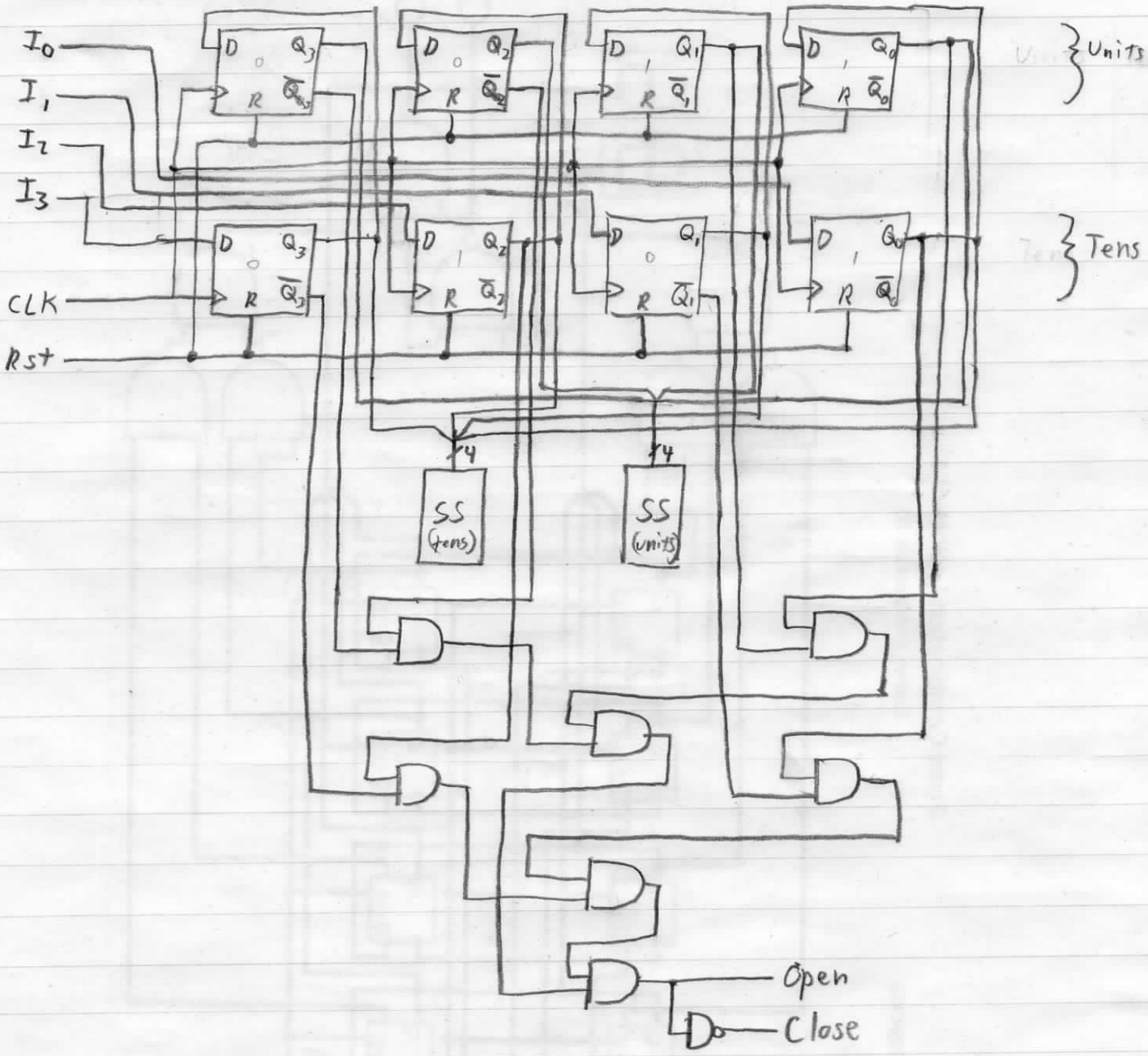
1 prog ng
1 Doc ng
1 Demo ng
4/4 TT ng

Logic Diagram



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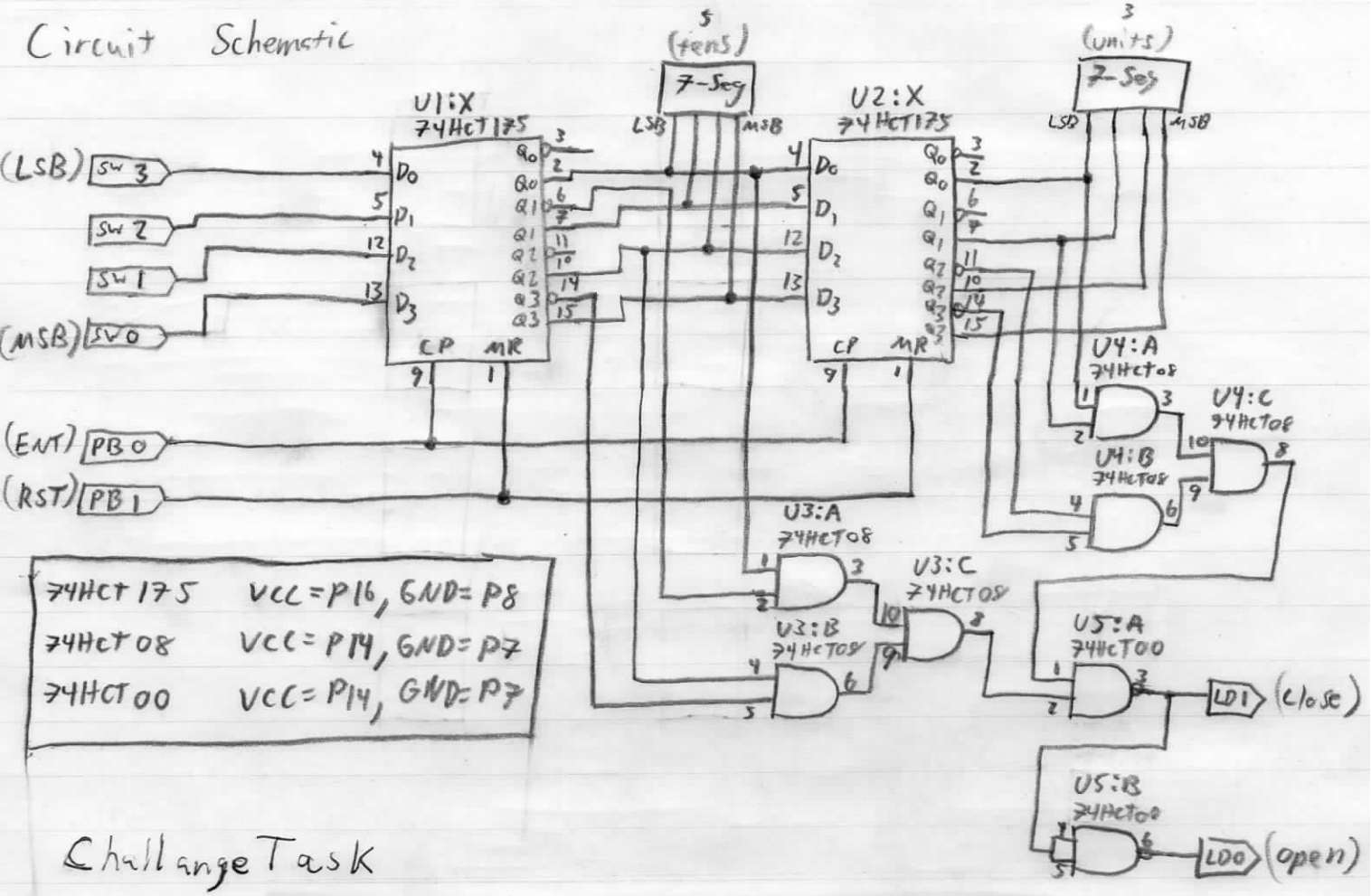
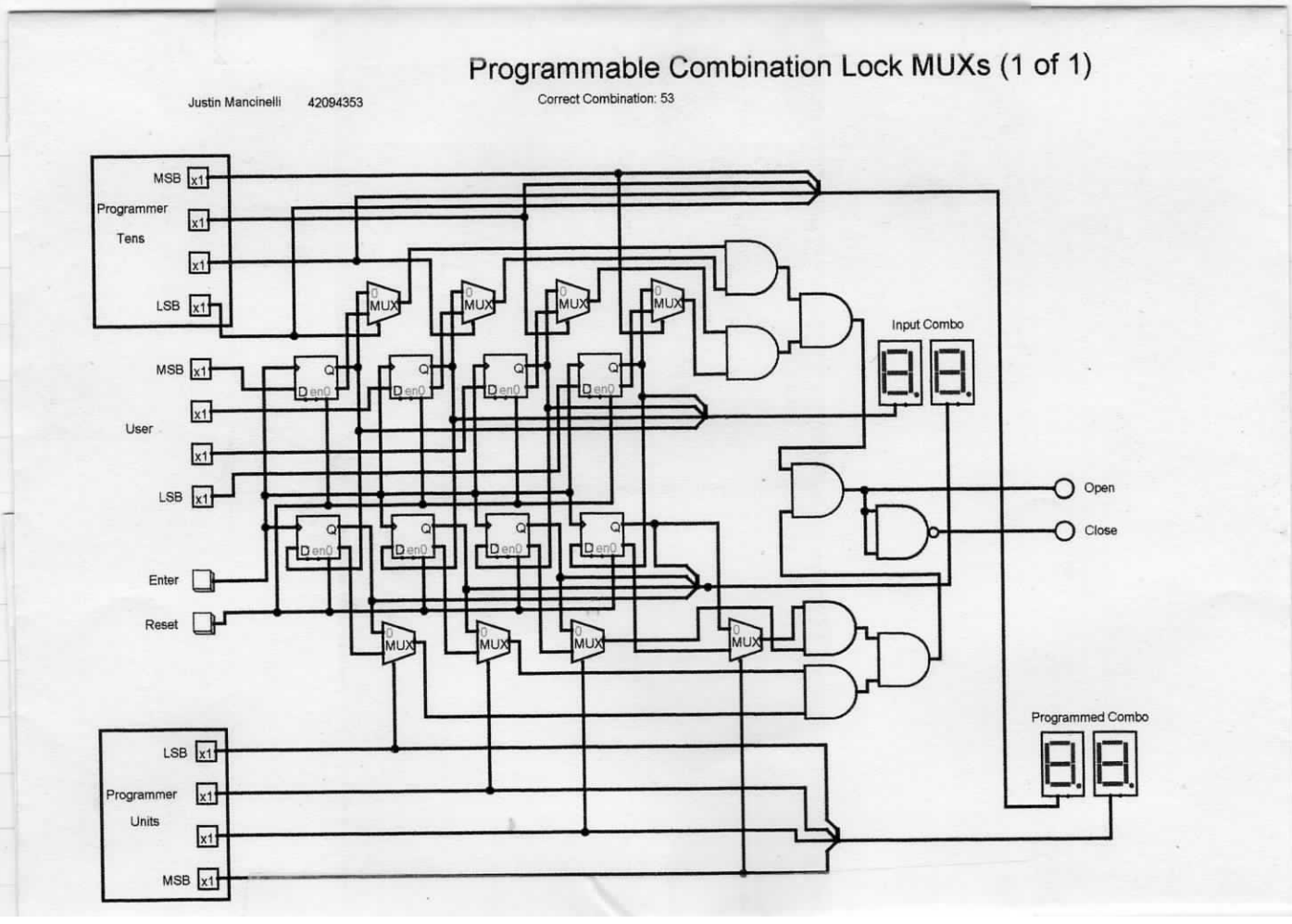
Circuit Schematic



74HCT175	VCC = P16, GND = P8
74HCT08	VCC = P14, GND = P7
74HCT00	VCC = P14, GND = P7

Challange Task



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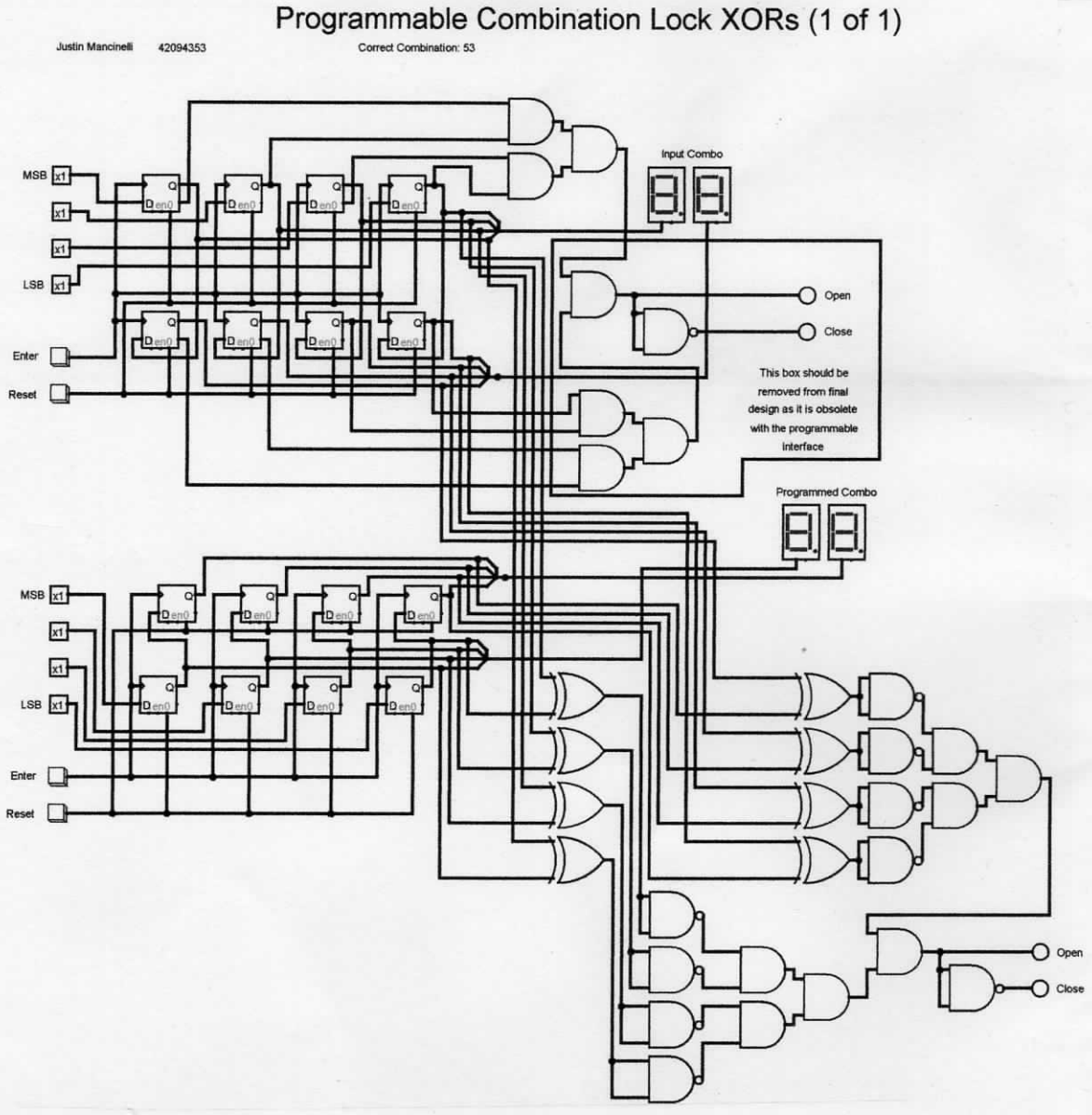
Challange Task Cont.



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Procedure

① Wire SWX and PBX to 74HCT175
② Wire both 74HCT175s to eachother and the Hex Displays.
③ Test wiring Hex Display — All good
④ Hardwire Tens and Units Digits
⑥ Test Tens and units individually — All good
⑦ Wire Open and Close LEDs to logic.
⑧ Test various combinations for LED output - All good

Combination Lock successfully wired for code 53.

Tutor Task: Change Code to 8B

① To change the code, note that the Q outputs from the 74HCT175 just need to be rewired to the binary representation.

$8_{16} = 1000_2 \Rightarrow Q_3\overline{Q_2}\overline{Q_1}\overline{Q_0}$ on U1
$B_{16} = 1011_2 \Rightarrow Q_3Q_2Q_1Q_0$ on U2

② U1: P15, P11, P6, P3
U3: P1, P2, P4, P5

U2: P15, P11, P7, P2
U4: P1 P2 P4 P5

③ Rewire as in ② and test individually — All good
④ Test various combinations for LED output - All good

Combination Lock successfully rewired for code 8B.