Cpr E 281 MINI PROJECT ELECTRICAL AND COMPUTER ENGINEERING IOWA STATE UNIVERSITY

Mini Project Answer Sheet

Name and Student ID:	Lab Section:
Date:	
PRELAB:	
Read the Mini-Project lab document and complete as much of this a can before lab.	inswer sheet as you
TA Initials:	
LAB:	

4.0 Draw Uncle Bob's circuit below, using only AND, OR, and NOT gates.

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(W, X, Y, Z) =			
erilog:			

Demonstration of Results:

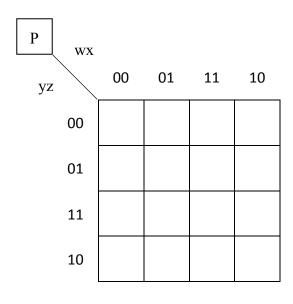
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6.0 Truth table for Uncle Bob's function B and the 4-bit prime detector function P.

W X Y Z B P 0						
0 0 1 0 1 0 0 1 0 0 0 0 1 1 0 0 1 0 0 0 0 1 1 0 0 0 1 1 1 0 1 0 0 0 0 1 0 1 0 0 1 0 1 1 0 1 0 1 1 0 1 1 0 0 0 1 1 0 0 0 1 1 0 0 0 1 1 0 0 0 1 1 0 0 0 1 1 0 0 0 1 1 0 0 0 1 1 0 0 0 1 1 0 0 0 1 1 0 <th>W</th> <th>X</th> <th>Υ</th> <th>Z</th> <th>В</th> <th>P</th>	W	X	Υ	Z	В	P
0 0 1 0 0 0 1 1 0 1 0 0 0 1 0 1 0 1 1 0 1 0 0 0 1 0 0 1 1 0 1 1 1 0 1 1 1 0 0 1 1 0 0 1 1 0 0 1 1 0 0	0	0	0	0		
0 0 1 1	0	0	0	1		
0 1 0 0 0 1 0 1 0 1 1 0 1 0 0 0 1 0 0 1 1 0 1 0 1 0 1 1 1 1 0 0 1 1 0 0 1 1 0 1 1 1 0 0 1 1 0 1 1 1 0 1 1 1 0 1 1 1 0 1 1 1 0 1 1 1 0 1 1 1 0 1 1 1 0 1 1	0	0	1	0		
0 1 0 1 0 1 1 0 0 1 1 1 1 0 0 0 1 0 0 1 1 0 1 0 1 0 1 1 1 1 0 0 1 1 0 1 1 1 0 1 1 1 0 1	0	0	1	1		
0 1 1 0	0	1	0	0		
0 1 1 1 1 1 0 0 0 0 1 0 0 1 0 1 0 1 0 0 1 1 0 0 0 1 1 0 1 0 1 1 0 1 0 1 1 0 1 0	0	1	0	1		
1 0 0 0 0 1 0 1 0 1 1 0 1 1 0 1	0	1	1	0		
1 0 0 1 1 0 1 0 1 0 1 1 1 1 0 0 1 1 0 1 1 1 0 1 1 1 0 1	0	1	1	1		
1 0 1 0 1 0 1 1 1 1 0 0 1 1 0 1 1 1 1 0	1	0	0	0		
1 0 1 1 1 1 0 0 1 1 0 1 1 1 1 0	1	0	0	1		
1 1 0 0 1 1 0 1 1 1 1 0	1	0	1	0		
1 1 0 1 1 1 1 0	1	0	1	1		
1 1 1 0	1	1	0	0		
	1	1	0	1		
1 1 1 1	1	1	1	0		
	1	1	1	1		



Simplified SOP Expression:

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7.0 Give your implementation of the correct 4-bit prime detector circuit (P) below as either Verilog or a schematic (your choice). Then demonstrate the results:
Demonstration of Results:
Demonstration of Results.

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Draw it below and demonstrate the results:

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Domonstration of Results:		
Demonstration of Results:	5	

8.0 Design and implement a circuit that uses Uncle Bob's circuit but fixes his mistakes.