Using the Iterated Consensus Method, determine the complete sum of F(a, b, c, d) = ab'c' + a'bc' + abc' + a'b'. Why is the *(10 points)* Using the Row/Column Dominance Method, minimize F(a, b, c, d) = $\sum m(0, 2, 5, 6, 7, 8, 9, 13) + \sum d(1, 12, 15)$. The complete sum of F is F_{cs}=a'b'd' + a'cd' + a'bc + b'c' + c'd + ac' + bd.

P1 - a'b'd'	*P3 -* a'bc	*P5 -* c'd	*P7 -* bd
P2 - a'cd'	*P4 -* b'c'	*P6 -* ac'	

		P1	P2	P3	P4	P5	P6	P7
a'b'c'd'	m0	x			x			
a'b'cd'	m2	x	x					
a'bc'd	m5					x		x
a'bcd'	m6		x	x				
a'bcd	m7			x				x
ab'c'd'	m8				x		x	
ab'c'd	m9				x	x	x	
abc'd	m13					x	x	x

no essential prime implicants (i.e. essential columns)

	P1	P2	P3	P4	P5	P6	P7
m0	x			x			
m2	x	x					
m5					x		x
m6		x	x				
m7			x				x
m8				x		x	
m9				x	x	x	
m13					x	x	x

m9 dominates m8, remove m9
m13 dominates m5, remove m13

	P1	P2	P3	P4	P5	P6	P7
m0	x			x			
m2	x	x					
m5					x		x
m6		x	x				
m7			x				x
m8				x		x	

P4 dominates P6, remove P6
P7 dominates P5, remove P5

	P1	P2	P3	P4	P7
m0	x			x	
m2	x	x			
m5					x
m6		x	x		
m7			x		x
m8				x	

P4 becomes essential to cover m8
P7 becomes essential to cover m5

	P1	P2	P3	P4	P7
m0	x			x	
m2	x	x			
m5					x
m6		x	x		
m7			x		x
m8				x	

Remove essential prime implicants and the minterms they cover

	P1	P2	P3
m2	x	x	
m6		x	x

no dominating rows

	P1	P2	P3
m2	x	x	
m6		x	x

P2 dominates P1, remove P3
P2 dominates P3, remove P1

	P2
m2	x
m6	x

P2 becomes essential to cover m2, m6

	P2
m2	x
m6	x

P2 becomes essential to cover m2, m6

Empty matrix – solution found!

F = P2 + P4 + P7
F = a'cd' + b'c' + bd