Table 1: XOR Truth Table

q1	q2	q3	Objective
0	0	0	0
0	0	1	?
0	1	0	?
0	1	1	0
1	0	0	?
1	0	1	0
1	1	0	0
1	1	1	?

The objective function is

$$O() = a_1q_1 + a_2q_2 + a_3q_3 + b_{12}q_1q_2 + b_{13}q_1q_3 + b_{23}q_2q_3 \tag{1}$$

Above is how the truth table for XOR should look, with the question marks needing to be greater than 0. The ground objective must be 0 because the first row in which all qubits are 0 is valid for XOR, and no values for the coefficients can make the objective non zero.

a_1, a_2, a_3 must be greater than 0 because the rows that have only a single 1 must have an objective greater than 0.

So the remaining three rows that equal 0 impose these constraints since all $a_i > 0$

$$a_1 + a_2 = -b_{12} \tag{2}$$

$$a_1 + a_3 = -b_{13} \tag{3}$$

$$a_2 + a_3 = -b_{23} \tag{4}$$

Now looking at the equation for the last row, which must have an objective greater than 0, and replacing $a_1 + a_2 = -b_{12}$ with zero we have

$$a_3 + b_{13} + b_{23} > 0 \tag{5}$$

So we must have $a_3 > -b_{13} - b_{23}$ which cannot be true because $-b_{13}$ must be greater than a_3 from equation 3 above, and $-b_{23}$ must be positive from equation 4.

Therefore the last row cannot be greater than 0.