Sum of All Subset XOR Totals

$(a, b, c) \Rightarrow a + b + c + a \wedge b + a \wedge c + b \wedge c + a \wedge b \wedge c$

$a\bar{b} + \bar{a}b + a\bar{c} + \bar{a}c + b\bar{c} + \bar{b}c + (a \wedge b)\bar{c} + \overline{(a \wedge b)}\,c$

$(a\bar{b} + \bar{a}b)\bar{c} + \overline{(a\bar{b} + \bar{a}b)}\,c$

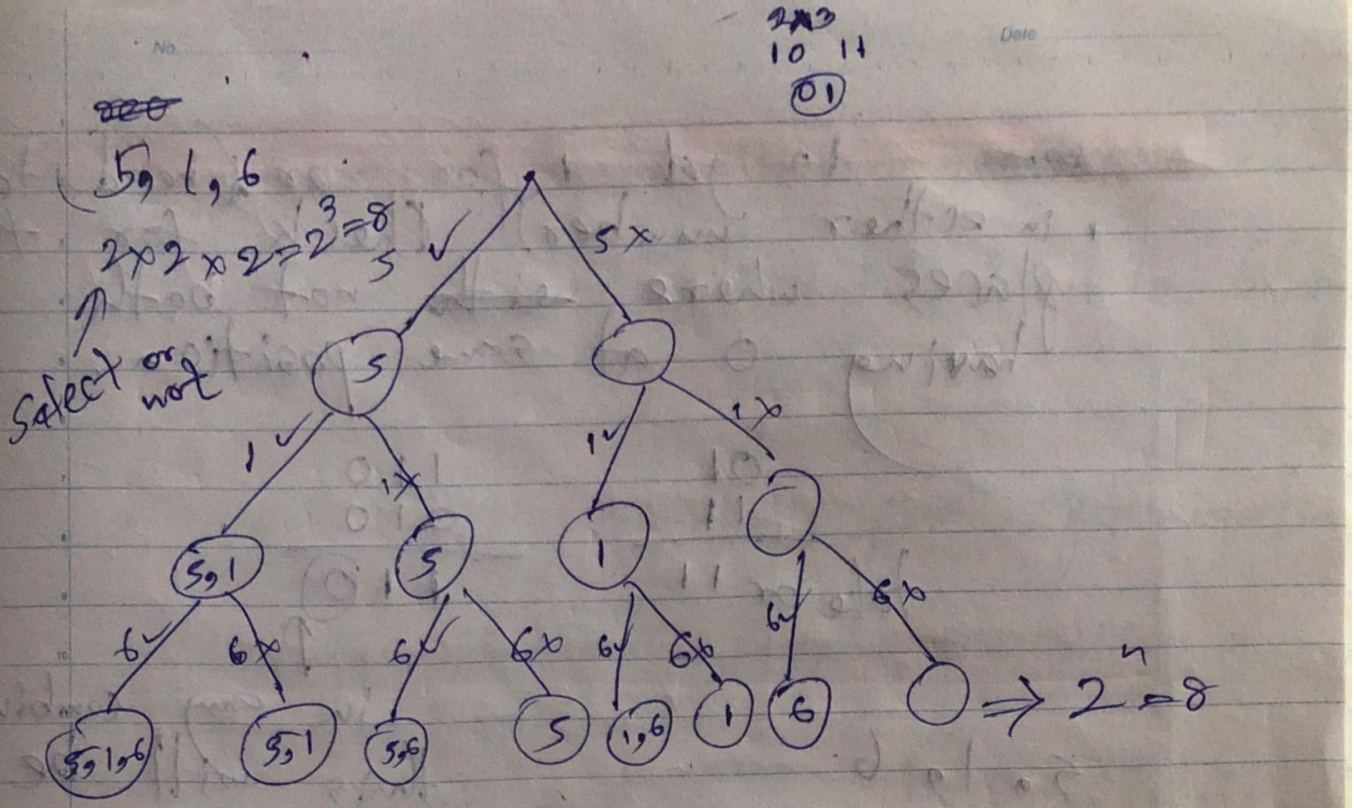
$a\bar{b}c + \bar{a}b\bar{c} + \bar{a}bc + a\bar{b}\bar{c}$

$a\bar{b}(1 + c) + \bar{a}b(1 + c) + a\bar{c} + \bar{a}c + b\bar{c} + \bar{b}c$

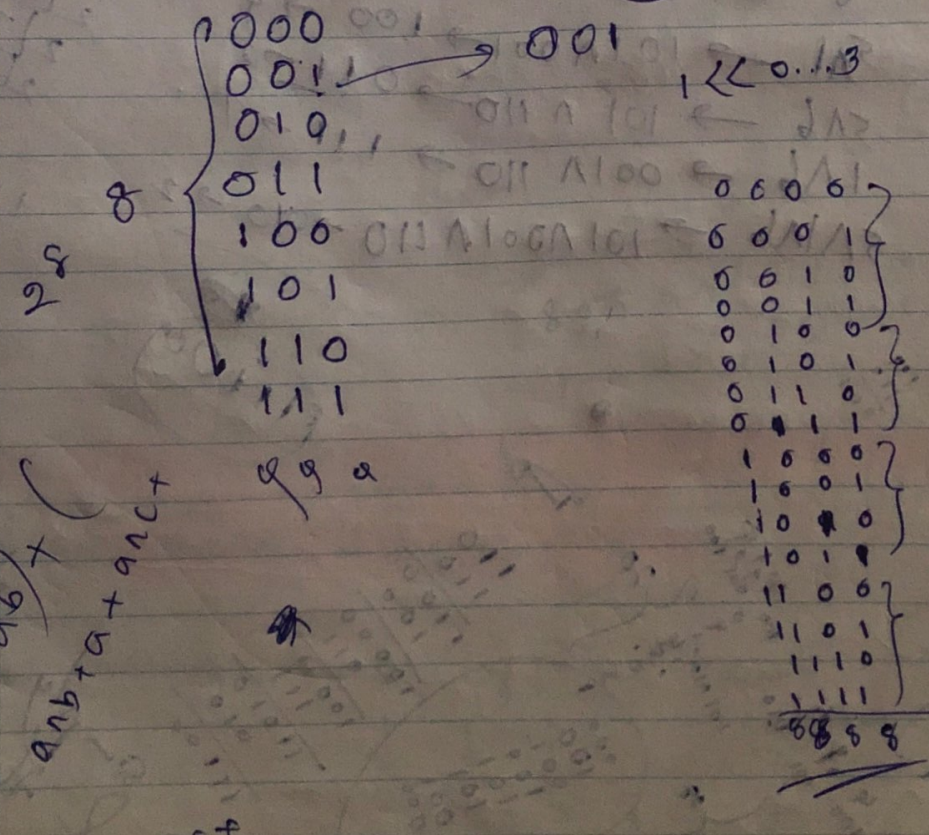
$a\bar{b} + \bar{a}b + b\bar{c} + \bar{b}c + a\bar{c} + \bar{a}c$

$a \wedge b + b \wedge c + a \wedge c$

Not working



Optimal solution to take all subsets is Bit Masking.



~~reason~~ to get 1 for xor need to have in either number check for the places where ~~with~~ not both having 0 at same position.

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  01        110
  11        010
------    ------
take or    110
           ↑
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in any combination this will be 0

5, 1, 6

101, 001, 110

0 → 0 → 0 → 0
5 → 101 → 101 → 5
1 → 001 → 001 → 1
6 → 110 → 110 → 6
5∧1 → 101∧001 → 100 → 4
5∧6 → 101 ∧ 110 → 011 → 3
1∧6 → 001∧ 110 → 111 → 7
5∧1∧6 → 101∧001∧110 → 010 → 2

28 → 11100