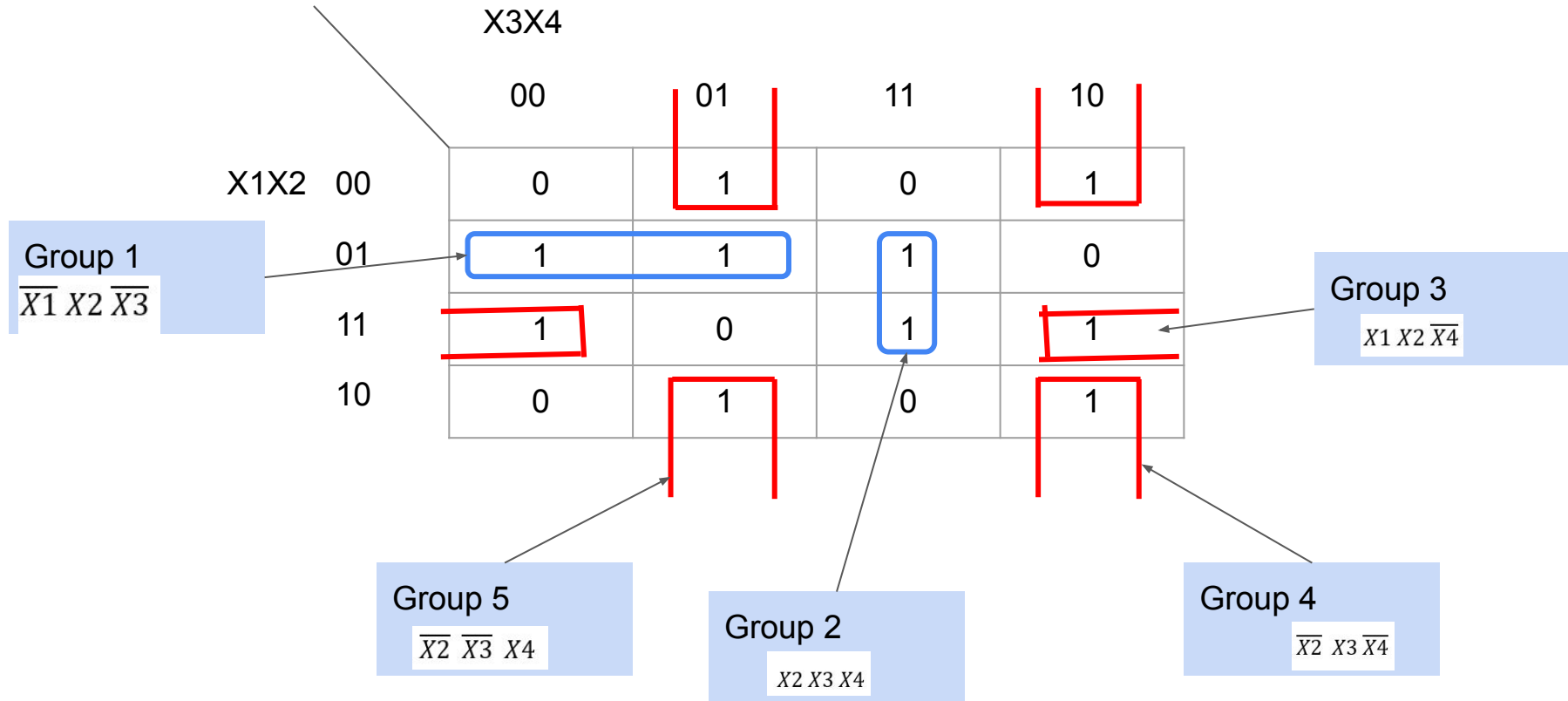


Z1 using Karnaugh maps from the truth table is given below

$$Z1 = \overline{X1}X2\overline{X3} + X2X3X4 + X1X2\overline{X4} + \overline{X2}X3\overline{X4} + \overline{X2}\overline{X3}X4$$

We can get such grouping from the primary observation



Z2 using Karnaugh maps from the truth table is given below

$$Z2 = \overline{X3} \overline{X4} + X2 \overline{X4} + X1 \overline{X4} + \overline{X1} X2 \overline{X3} + \overline{X1} \overline{X2} X3 X4$$

We can get such grouping from the primary observation

