

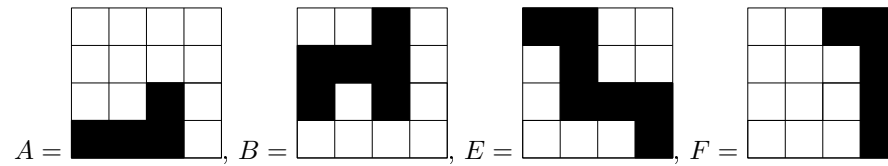
Let

$$\begin{pmatrix} C_1 & C_2 & C_3 & C_4 \\ 8 & -4 & 10 & 1 \\ 7 & -2 & 4 & 1 \\ 7 & -2 & 4 & 1 \\ 7 & -3 & 5 & 1 \end{pmatrix}$$

Without modifying the column C_4 , make as many zeros as possible appear in the other columns by using only linear operations involving C_4 .

Each time a coefficient is non zero, color the corresponding box on the left.

Let



then, on the left,

- color $A \setminus B$
- color $(A \cup B \cup E)^C$
- color $E \cap F$