

$$\begin{aligned}
No01 &= \begin{bmatrix} U = \{0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10\} \\ A = \{0, 1, 2, 5, 7, 10\} \\ B = \{1, 3, 5, 9, 10\} \end{bmatrix} \\
No02 &= \begin{bmatrix} U = \{3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14\} \\ A = \{4, 7, 8, 9, 10, 12\} \\ B = \{5, 9, 10, 12, 14\} \end{bmatrix} \\
No03 &= \begin{bmatrix} U = \{1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15\} \\ A = \{6, 8, 10, 12, 13\} \\ B = \{1, 3, 7\} \\ C = \{3, 7, 10, 11, 12, 13\} \end{bmatrix} \\
No04 &= \begin{bmatrix} U = \{1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11\} \\ A = \{3, 4, 5, 7, 8, 9, 11\} \\ B = \{2, 3, 4, 9\} \end{bmatrix} \\
No05 &= \begin{bmatrix} .1 = A \cap B & .2 = A' - B' & .3 = (A - B) \cap (B - A) \\ .4 = C' & .5 = C \cap (A \cup B) & .6 = (A \cap C) \cup (B \cap C) \\ .7 = (A - B) \cap (A - C) & .8 = A' - B' & .9 = (B - C)' - A \end{bmatrix}
\end{aligned}$$
$$\begin{aligned}
No01 &= \left[\begin{array}{c} U = \{4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16\} \\ A = \{4, 6, 7, 8, 12, 13\} \\ B = \{9, 14, 16\} \end{array} \right] \\
No02 &= \left[\begin{array}{c} U = \{4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17\} \\ A = \{6, 8, 15\} \\ B = \{7, 9, 12, 13, 14, 16, 17\} \end{array} \right] \\
No03 &= \left[\begin{array}{c} U = \{1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17\} \\ A = \{2, 3, 4, 7, 9, 16\} \\ B = \{3, 5, 8, 10, 11, 15, 16\} \\ C = \{1, 2, 5, 7, 14\} \end{array} \right] \\
No04 &= \left[\begin{array}{c} U = \{2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13\} \\ A = \{2, 6, 9, 11, 12, 13\} \\ B = \{2, 3, 4\} \end{array} \right] \\
No05 &= \left[\begin{array}{ccc} .1 = A \cap B & .2 = B' - A & .3 = (A - B) \cap (B - A) \\ .4 = A \cup C & .5 = A \cup (B \cap C) & .6 = (A \cup B) \cap (A \cup C) \\ .7 = (B - A) \cup (B - C) & .8 = A' - C' & .9 = B' \cap (C - A)' \end{array} \right]
\end{aligned}$$

$$\begin{aligned}
No01 &= \begin{bmatrix} U = \{0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10\} \\ A = \{1, 2, 3, 5, 6, 9\} \\ B = \{0, 3, 5, 7, 9\} \end{bmatrix} \\
No02 &= \begin{bmatrix} U = \{2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15\} \\ A = \{3, 4, 10, 11, 15\} \\ B = \{5, 9, 12\} \end{bmatrix} \\
No03 &= \begin{bmatrix} U = \{2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16\} \\ A = \{4, 5, 6, 8, 11, 12, 16\} \\ B = \{5, 6, 8, 10, 12, 14\} \\ C = \{3, 5, 6, 11\} \end{bmatrix} \\
No04 &= \begin{bmatrix} U = \{4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16\} \\ A = \{4, 5, 7, 8, 9, 12, 13\} \\ B = \{7, 8, 12, 15, 16\} \end{bmatrix} \\
No05 &= \begin{bmatrix} .1 = A \cap B & .2 = A - B' & .3 = A' \cap B' \\ .4 = B \cup C & .5 = B \cup (A \cap C) & .6 = (A \cup B) \cap (B \cup C) \\ .7 = (C - A) \cup (C - B) & .8 = B' \cap C' & .9 = (C - A)' - B' \end{bmatrix}
\end{aligned}$$
$$\begin{aligned}
No01 &= \begin{bmatrix} U = \{2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14\} \\ A = \{6, 8, 9, 11, 13\} \\ B = \{2, 4, 5, 7, 10, 11\} \end{bmatrix} \\
No02 &= \begin{bmatrix} U = \{2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13\} \\ A = \{2, 4, 6, 8, 10, 11\} \\ B = \{2, 3, 6, 8, 10, 11, 13\} \end{bmatrix} \\
No03 &= \begin{bmatrix} U = \{0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19\} \\ A = \{0, 10, 11, 16\} \\ B = \{3, 4, 9, 10, 11, 14, 19\} \\ C = \{5, 6, 9, 14, 15, 16\} \end{bmatrix} \\
No04 &= \begin{bmatrix} U = \{0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13\} \\ A = \{4, 7, 10\} \\ B = \{2, 3, 6, 9\} \end{bmatrix} \\
No05 &= \begin{bmatrix} .1 = A' & .2 = A - B' & .3 = (A \cup B)' \\ .4 = B \cup C & .5 = B \cup (A \cap C) & .6 = (A \cup B) \cap (B \cup C) \\ .7 = (A - B) \cap (A - C) & .8 = A' \cup C' & .9 = (A - C)' - B' \end{bmatrix}
\end{aligned}$$

$$\begin{aligned}
No01 &= \begin{bmatrix} U = \{0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11\} \\ A = \{3, 4, 7, 9, 11\} \\ B = \{0, 1, 2, 8, 9, 11\} \end{bmatrix} \\
No02 &= \begin{bmatrix} U = \{3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16\} \\ A = \{3, 15, 16\} \\ B = \{3, 5, 6, 7, 14\} \end{bmatrix} \\
No03 &= \begin{bmatrix} U = \{0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15\} \\ A = \{0, 2, 5, 7, 9, 11, 12\} \\ B = \{3, 5, 14\} \\ C = \{3, 5, 10, 13\} \end{bmatrix} \\
No04 &= \begin{bmatrix} U = \{4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14\} \\ A = \{6, 7, 9, 11, 14\} \\ B = \{4, 5, 8, 11, 13, 14\} \end{bmatrix} \\
No05 &= \begin{bmatrix} .1 = A \cap B & .2 = A' - B' & .3 = (A \cap B)' \\ .4 = A \cap C & .5 = A \cup (B \cap C) & .6 = (A \cup B) \cap (A \cup C) \\ .7 = (A - B) \cap (A - C) & .8 = A' - B' & .9 = (C - A)' - B' \end{bmatrix}
\end{aligned}$$
$$\begin{aligned}
No01 &= \begin{bmatrix} U = \{0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10\} \\ A = \{0, 5, 6, 9\} \\ B = \{3, 4, 7\} \end{bmatrix} \\
No02 &= \begin{bmatrix} U = \{2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14\} \\ A = \{5, 7, 8, 9, 11, 12, 14\} \\ B = \{5, 10, 11, 14\} \end{bmatrix} \\
No03 &= \begin{bmatrix} U = \{1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17\} \\ A = \{2, 7, 8\} \\ B = \{2, 5, 9, 10, 13, 16\} \\ C = \{1, 4, 5, 6, 8, 11, 16\} \end{bmatrix} \\
No04 &= \begin{bmatrix} U = \{1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14\} \\ A = \{1, 9, 12\} \\ B = \{1, 4, 5, 6, 10, 11, 14\} \end{bmatrix} \\
No05 &= \begin{bmatrix} .1 = A \cap B & .2 = B - A & .3 = (A - B) \cap (B - A) \\ .4 = A \cup B & .5 = A \cup (B \cap C) & .6 = (A \cup B) \cap (A \cup C) \\ .7 = (C - A) \cap (C - B) & .8 = C' - B' & .9 = (A - C)' - B \end{bmatrix}
\end{aligned}$$

$$\begin{aligned}
No01 &= \begin{bmatrix} U = \{1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13\} \\ A = \{5, 9, 13\} \\ B = \{2, 4, 6, 12\} \end{bmatrix} \\
No02 &= \begin{bmatrix} U = \{2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16\} \\ A = \{6, 11, 13\} \\ B = \{9, 11, 12, 13, 14, 15\} \end{bmatrix} \\
No03 &= \begin{bmatrix} U = \{2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18\} \\ A = \{7, 13, 17, 18\} \\ B = \{3, 4, 13\} \\ C = \{6, 7, 11, 15, 17\} \end{bmatrix} \\
No04 &= \begin{bmatrix} U = \{3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16\} \\ A = \{3, 8, 9, 11, 13\} \\ B = \{5, 7, 12, 16\} \end{bmatrix} \\
No05 &= \begin{bmatrix} .1 = A' & .2 = A - B & .3 = (A \cap B)' \\ .4 = B' & .5 = A \cap (B \cup C) & .6 = (A \cap B) \cup (A \cap C) \\ .7 = (B - A) \cap (B - C) & .8 = B' - A' & .9 = B' \cap (C - A)' \end{bmatrix}
\end{aligned}$$
$$\begin{aligned}
No01 &= \begin{bmatrix} U = \{2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12\} \\ A = \{2, 3, 4, 5, 8, 9\} \\ B = \{2, 5, 8\} \end{bmatrix} \\
No02 &= \begin{bmatrix} U = \{3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17\} \\ A = \{6, 7, 8, 9, 14, 16\} \\ B = \{4, 5, 7, 11, 13\} \end{bmatrix} \\
No03 &= \begin{bmatrix} U = \{3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18\} \\ A = \{4, 6, 9\} \\ B = \{9, 11, 14, 18\} \\ C = \{5, 6, 9, 10, 12, 13, 17\} \end{bmatrix} \\
No04 &= \begin{bmatrix} U = \{4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16\} \\ A = \{6, 8, 9, 10, 11, 13, 14\} \\ B = \{8, 9, 10, 11, 15\} \end{bmatrix} \\
No05 &= \begin{bmatrix} .1 = B' & .2 = B - A & .3 = (A - B) \cup (B - A) \\ .4 = A' & .5 = C \cup (A \cap B) & .6 = (A \cup C) \cap (B \cup C) \\ .7 = (C - A) \cap (C - B) & .8 = A' \cap C' & .9 = (B - C)' - A' \end{bmatrix}
\end{aligned}$$

$$\begin{aligned}
No01 &= \begin{bmatrix} U = \{0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10\} \\ A = \{0, 2, 3, 6, 10\} \\ B = \{0, 1, 6\} \end{bmatrix} \\
No02 &= \begin{bmatrix} U = \{4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15\} \\ A = \{9, 11, 12, 13\} \\ B = \{5, 7, 8, 9, 11, 12, 14\} \end{bmatrix} \\
No03 &= \begin{bmatrix} U = \{1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18\} \\ A = \{2, 8, 11, 14\} \\ B = \{3, 5, 9, 14, 15, 16\} \\ C = \{9, 17, 18\} \end{bmatrix} \\
No04 &= \begin{bmatrix} U = \{1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14\} \\ A = \{4, 6, 8, 9, 12, 13\} \\ B = \{7, 10, 14\} \end{bmatrix} \\
No05 &= \begin{bmatrix} .1 = A \cap B & .2 = B - A & .3 = A' \cap B' \\ .4 = A' & .5 = B \cup (A \cap C) & .6 = (A \cup B) \cap (B \cup C) \\ .7 = (B - A) \cup (B - C) & .8 = B' - C' & .9 = A' \cap (C - B)' \end{bmatrix}
\end{aligned}$$
$$\begin{aligned}
No01 &= \begin{bmatrix} U = \{2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13\} \\ A = \{2, 7, 9, 10, 12\} \\ B = \{2, 3, 7, 8\} \end{bmatrix} \\
No02 &= \begin{bmatrix} U = \{4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18\} \\ A = \{6, 9, 10, 12, 16\} \\ B = \{8, 10, 11, 12, 13, 14, 17\} \end{bmatrix} \\
No03 &= \begin{bmatrix} U = \{2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17\} \\ A = \{4, 7, 9, 10, 11, 15, 16\} \\ B = \{2, 3, 7, 10, 11, 13\} \\ C = \{3, 7, 8\} \end{bmatrix} \\
No04 &= \begin{bmatrix} U = \{4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17\} \\ A = \{5, 7, 11\} \\ B = \{5, 7, 10, 13, 15\} \end{bmatrix} \\
No05 &= \begin{bmatrix} .1 = B' & .2 = A - B' & .3 = (A - B) \cap (B - A) \\ .4 = B \cap C & .5 = A \cup (B \cap C) & .6 = (A \cup B) \cap (A \cup C) \\ .7 = (B - A) \cup (B - C) & .8 = B' - C' & .9 = B' \cap (C - A)' \end{bmatrix}
\end{aligned}$$

$$\begin{aligned}
No01 &= \begin{bmatrix} U = \{0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10\} \\ A = \{0, 2, 4, 6, 7, 8\} \\ B = \{3, 5, 8\} \end{bmatrix} \\
No02 &= \begin{bmatrix} U = \{0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13\} \\ A = \{0, 1, 3, 5, 8, 10\} \\ B = \{3, 4, 6, 8, 11\} \end{bmatrix} \\
No03 &= \begin{bmatrix} U = \{1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17\} \\ A = \{5, 8, 10, 12, 17\} \\ B = \{2, 4, 6, 7, 11, 13, 16\} \\ C = \{1, 4, 12, 17\} \end{bmatrix} \\
No04 &= \begin{bmatrix} U = \{3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17\} \\ A = \{3, 7, 9, 12, 13, 16\} \\ B = \{4, 10, 16\} \end{bmatrix} \\
No05 &= \begin{bmatrix} .1 = A \cup B & .2 = A - B' & .3 = A' \cap B' \\ .4 = B \cap C & .5 = C \cap (A \cup B) & .6 = (A \cap C) \cup (B \cap C) \\ .7 = (C - A) \cap (C - B) & .8 = C' - B' & .9 = B \cap (A - C)' \end{bmatrix}
\end{aligned}$$
$$\begin{aligned}
No01 &= \begin{bmatrix} U = \{4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15\} \\ A = \{4, 8, 10, 12, 13\} \\ B = \{6, 8, 10, 11, 12, 15\} \end{bmatrix} \\
No02 &= \begin{bmatrix} U = \{4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18\} \\ A = \{4, 6, 8, 12, 13, 14, 18\} \\ B = \{6, 7, 8, 14\} \end{bmatrix} \\
No03 &= \begin{bmatrix} U = \{0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14\} \\ A = \{2, 4, 5, 8, 11, 12, 14\} \\ B = \{0, 1, 8, 12, 13, 14\} \\ C = \{0, 3, 7, 11, 14\} \end{bmatrix} \\
No04 &= \begin{bmatrix} U = \{1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14\} \\ A = \{1, 2, 14\} \\ B = \{3, 4, 5, 6, 7, 10, 11\} \end{bmatrix} \\
No05 &= \begin{bmatrix} .1 = A \cup B & .2 = A' - B & .3 = (A \cup B)' \\ .4 = A \cup C & .5 = C \cap (A \cup B) & .6 = (A \cap C) \cup (B \cap C) \\ .7 = (B - A) \cap (B - C) & .8 = A' - C' & .9 = (B - C)' - A' \end{bmatrix}
\end{aligned}$$

$$\begin{aligned}
No01 &= \begin{bmatrix} U = \{4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15\} \\ A = \{5, 9, 11, 12, 13, 14\} \\ B = \{5, 6, 7, 12, 13\} \end{bmatrix} \\
No02 &= \begin{bmatrix} U = \{0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12\} \\ A = \{1, 3, 4, 7, 8, 9, 10\} \\ B = \{2, 3, 4, 10, 11\} \end{bmatrix} \\
No03 &= \begin{bmatrix} U = \{0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17\} \\ A = \{2, 3, 9, 11, 15\} \\ B = \{1, 2, 6, 8, 9, 10, 14\} \\ C = \{3, 9, 10, 13\} \end{bmatrix} \\
No04 &= \begin{bmatrix} U = \{0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10\} \\ A = \{1, 4, 6, 10\} \\ B = \{2, 3, 4, 5, 7, 10\} \end{bmatrix} \\
No05 &= \begin{bmatrix} .1 = A' & .2 = A' - B & .3 = (A - B) \cap (B - A) \\ .4 = A \cap B & .5 = C \cap (A \cup B) & .6 = (A \cap C) \cup (B \cap C) \\ .7 = (B - A) \cup (B - C) & .8 = B' \cup C' & .9 = A \cap (B - C)' \end{bmatrix}
\end{aligned}$$
$$\begin{aligned}
No01 &= \begin{bmatrix} U = \{3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13\} \\ A = \{3, 7, 10\} \\ B = \{3, 9, 11, 13\} \end{bmatrix} \\
No02 &= \begin{bmatrix} U = \{2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16\} \\ A = \{5, 8, 9, 11\} \\ B = \{2, 10, 12, 14, 15\} \end{bmatrix} \\
No03 &= \begin{bmatrix} U = \{0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17\} \\ A = \{1, 2, 6, 16, 17\} \\ B = \{0, 9, 10, 11, 12, 16\} \\ C = \{1, 2, 3, 6, 7, 14, 17\} \end{bmatrix} \\
No04 &= \begin{bmatrix} U = \{0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12\} \\ A = \{1, 9, 10\} \\ B = \{1, 3, 4, 6, 10, 11\} \end{bmatrix} \\
No05 &= \begin{bmatrix} .1 = B' & .2 = B - A & .3 = (A - B) \cup (B - A) \\ .4 = B \cap C & .5 = A \cap (B \cup C) & .6 = (A \cap B) \cup (A \cap C) \\ .7 = (A - B) \cap (A - C) & .8 = B' \cap C' & .9 = B \cap (A - C)' \end{bmatrix}
\end{aligned}$$

[illegible]