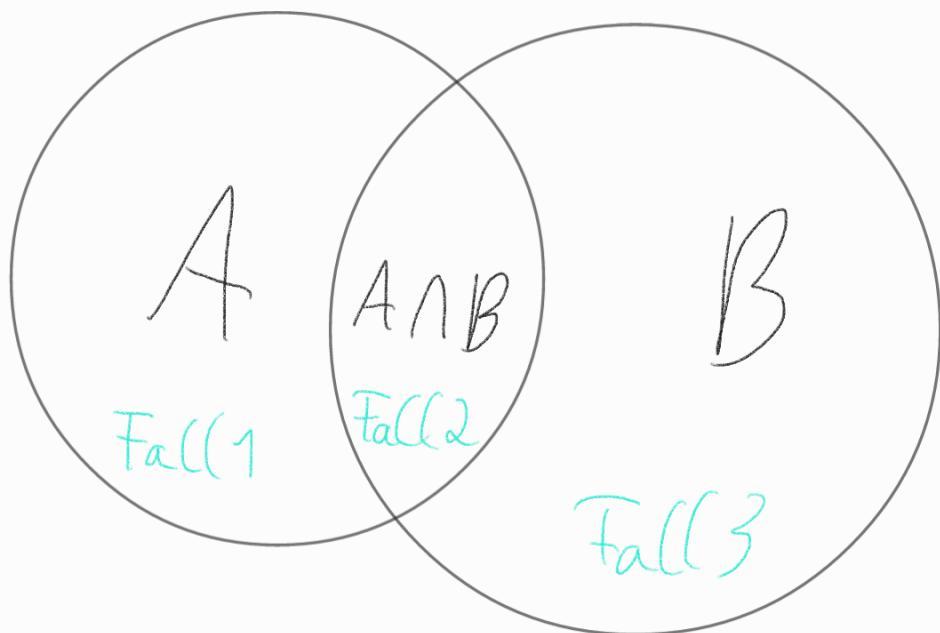


$$7) P(A) \cap P(B) = P(A \cap B)$$



$$P(M) \underset{\text{def}}{=} \sum u \{ u \subseteq M \}$$

$$\{ u \mid u \subseteq A \} \cap \{ u \mid u \subseteq B \}$$

$$= \{ u \mid u \subseteq A \cap B \}$$

Fall 1:

Wenn  $u \notin B$ , dann kann  $u \notin A \cap B$

Fall(3):

Weil  $U \notin A$ , dann kann  $U \notin A \cap B$

Fall(2):

$U \subseteq A$  und  $U \subseteq B$ ,

dann ist auch  $U \subseteq A \cap B$

und damit  $P(A \cap B)$

$$P(A) \cap P(B) = P(A \cap B)$$

$$A = \{1, 2\} \quad B = \{2\}$$

$$P(A) = \{\emptyset, 1, 2, (1,2)\}$$

$$P(B) = \{\emptyset, 2\}$$

$$P(A) \cap P(B) = \{\emptyset, 2\}$$

$$A \cap B = \{2\}$$



$$P(A \cap B) = \{\emptyset, 2\}$$

Gegenbeispiele für

$$P(A) \cup P(B) = P(A \cup B)$$

$$A = \{1\}$$

$$B = \{2\}$$

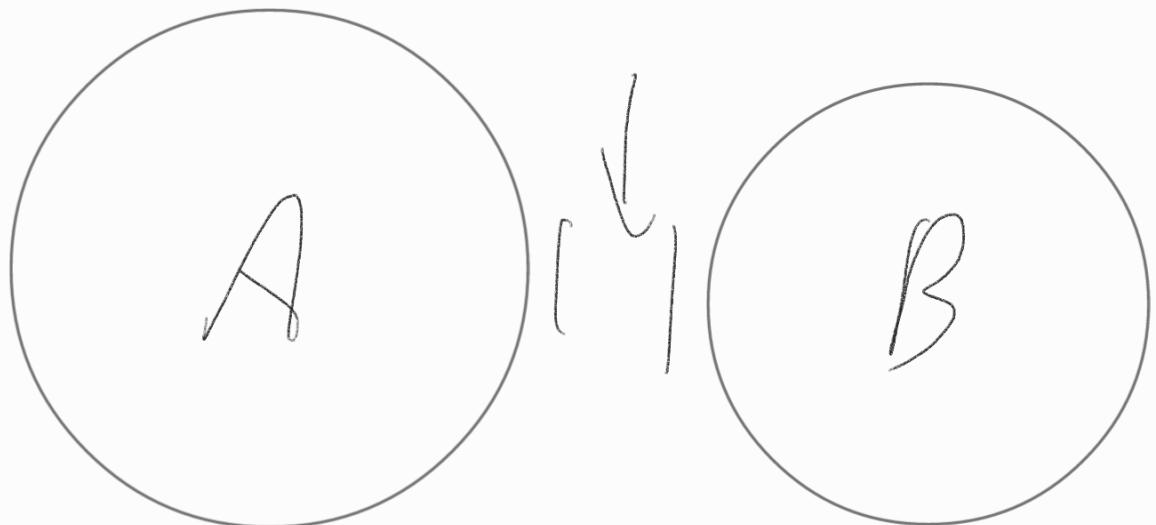
$$P(A) = \{\emptyset, \{1\}\}$$

$$P(B) = \{\emptyset, \{2\}\}$$

$$P(A) \cup P(B) = \{\emptyset, \{1\}, \{2\}\}$$

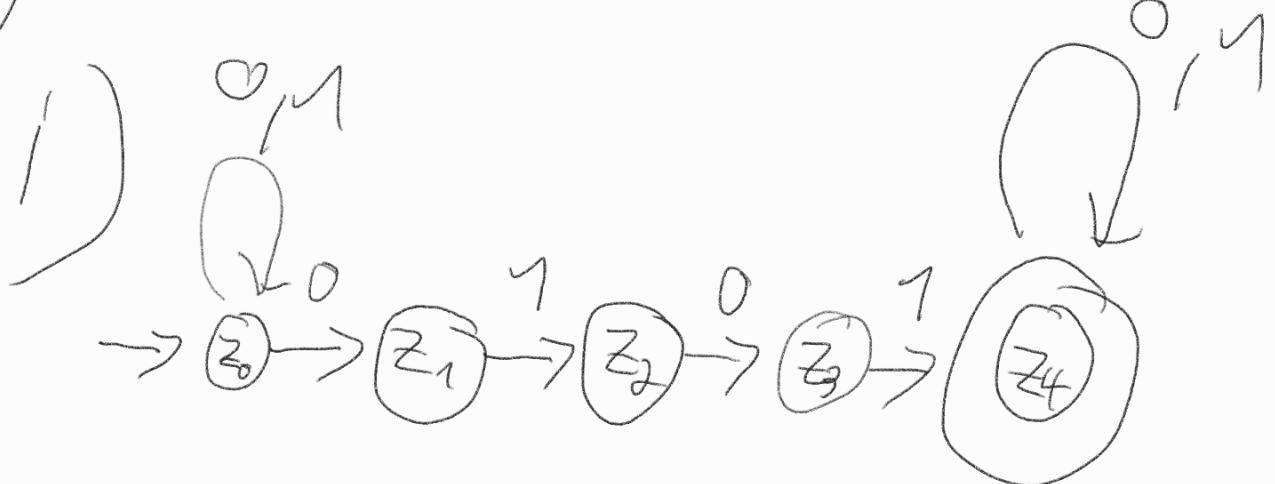
$$A \cup B = \{1, 2\}$$

$$P(A \cup B) = \{\emptyset, 1, 2, \{1, 2\}\}$$



$$A \cup B = \emptyset$$

2)



$$\text{II) } M_1' = \left( P\{z_0, z_1, z_2, z_3, z_4\}, \right. \\ \left. \{z_0, z_3\}, \right. \\ \left. S', \{z_0\}, E \right\}$$

$$E = \left\{ \{z_0, z_2, z_4\}, \{z_0, z_4\}, \right. \\ \left. \{z_0, z_1, z_4\}, \{z_0, z_1, z_3, z_4\} \right\}$$

$$S'(\{z_0\}, 0) = \{z_0, z_1\}$$

$$S'(\{z_0\}, 1) = \{z_0\}$$

$$S'(\{z_0, z_1\}, 0) = \{z_0, z_1\}$$

$$\delta'(\{z_0, z_1\}, 1) = \{z_0, z_2\}$$

$$\delta'(\{z_0, z_2\}, 0) = \{z_0, z_1, z_3\}$$

$$\delta'(\{z_0, z_2\}, 1) = \{z_0\}$$

$$\delta'(\{z_0, z_1, z_3\}, 0) = \{z_0, z_1\}$$

$$\delta'(\{z_0, z_1, z_3\}, 1) = \{z_0, z_2, z_4\}$$

$$\delta'(\{z_0, z_2, z_4\}, 0) = \{z_0, z_1, z_3, z_4\}$$

$$\delta'(\{z_0, z_2, z_4\}, 1) = \{z_0, z_4\}$$

$$\delta'(\{z_0, z_1, z_3, z_4\}, 0) = \{z_0, z_1, z_4\}$$

$$\delta'(\{z_0, z_1, z_3, z_4\}, 1) = \{z_0, z_2, z_4\}$$

$$\delta'(\{z_0, z_1, z_4\}, 0) = \{z_0, z_1\}$$

$$\delta'(\{z_0, z_1, z_4\}, 1) = \{z_0, z_4\}$$

$$\delta'(\{z_0, z_4\}, 0) = \{z_0, z_1\}$$

$$\delta'(\{z_0, z_4\}, 1) = \{z_0, z_4\}$$

$M_1$

