Blatt 8 Aufgabe 2

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A)

TID	A	B	C	D	E	F
1	1	1	1	0	0	0
2	0	1	0	0	1	1
3	1	0	1	0	1	0
4	1	0	0	0	0	0
5	0	1	0	0	0	0
6	0	0	0	1	0	1
7	0	1	0	0	1	0
8	1	1	1	0	1	1
9	1	0	0	1	0	0
10	1	0	0	0	1	1

B) Aus einer $minfreq = 0,25$ resultieren folgende Itemsets:

$$\{A\}, \{B\}, \{C\}, \{E\}, \{F\}, \{AC\}, \{BF\}, \{AE\}, \{EF\}, \{BE\}$$

C) Support =

$$supp(\{A\} \to \{B, C\}) = supp(\{A\} \cup \{B, C\})$$
$$= supp(\{A, B, C\}) = |\{t \in D : \ t \ enthlt \ X\}| = |\{t_1, t_8\}| = 2$$

$$Konfidenz = supp(\frac{supp(\{A,B,C\})}{supp(\{A\})}) = \frac{2}{6} = \frac{1}{3}$$

D) $minsupp = 2$, Startmenge $F_1 = \{A, B, C, D, E, F\}$
Generiere $C_2 = F_{k-1} \times F_{k-1} \to$

$C_2 = \{\{AB\}, \{AC\}, \{AD\}, \{AE\}, \{AF\}, \{BC\}, \{BD\}, \{BE\}, \{BF\}, \{CD\},$
$\{CE\}, \{CF\}, \{DE\}, \{DF\}, \{EF\}$

finde hufige Itemsets
$F_2 = \{\{AB\}, \{AC\}, \{AE\} \{AF\}, \{BC\}, BE\}, \{BF\}, \{CE\}, \{EF\}\}$
Generiere C_3 nach $F_{k-1} \times F_{k-1}$
$C_3 = \{\{ABC\}, \{ABE\}, \{ABF\}, \{ACE\}, \{ACF\}, \{BCE\}, \{BCF\}, \{BEF\},$
$\{CDE\}, \{CEF\}\}$
finde hufige Itemsets

$F_3 = \{\{ABC\}, \{ACE\}, \{AEF\}, \{BEF\}\}$
Generiere C_4 nach $F_{k-1} \times F_{k-1}$

$C_4 = \varnothing \Rightarrow F_4 = \varnothing$
result $= F_1 \cup F_2 \cup F_3$