$V = \{ A\ B\ C \}$

$F = \{ A \to B,\ B \to C,\ C \to A \}$

A	B	C
a_1	b_1	c_1
a_2	b_2	c_2
a_3	b_2	c_2

keys are : A, B, C

$R_1(AB)$, $A \to B$ $\quad R_2(BC)$, $B \to C$

$$V = \{A\ B\ C\}$$

$$F = \{A \to B,\ B \to C\}$$

$$\rho = \{AC,\ BC\}$$

$R_1(A\ B)$

A	B
a_1	b_1
a_2	b_2

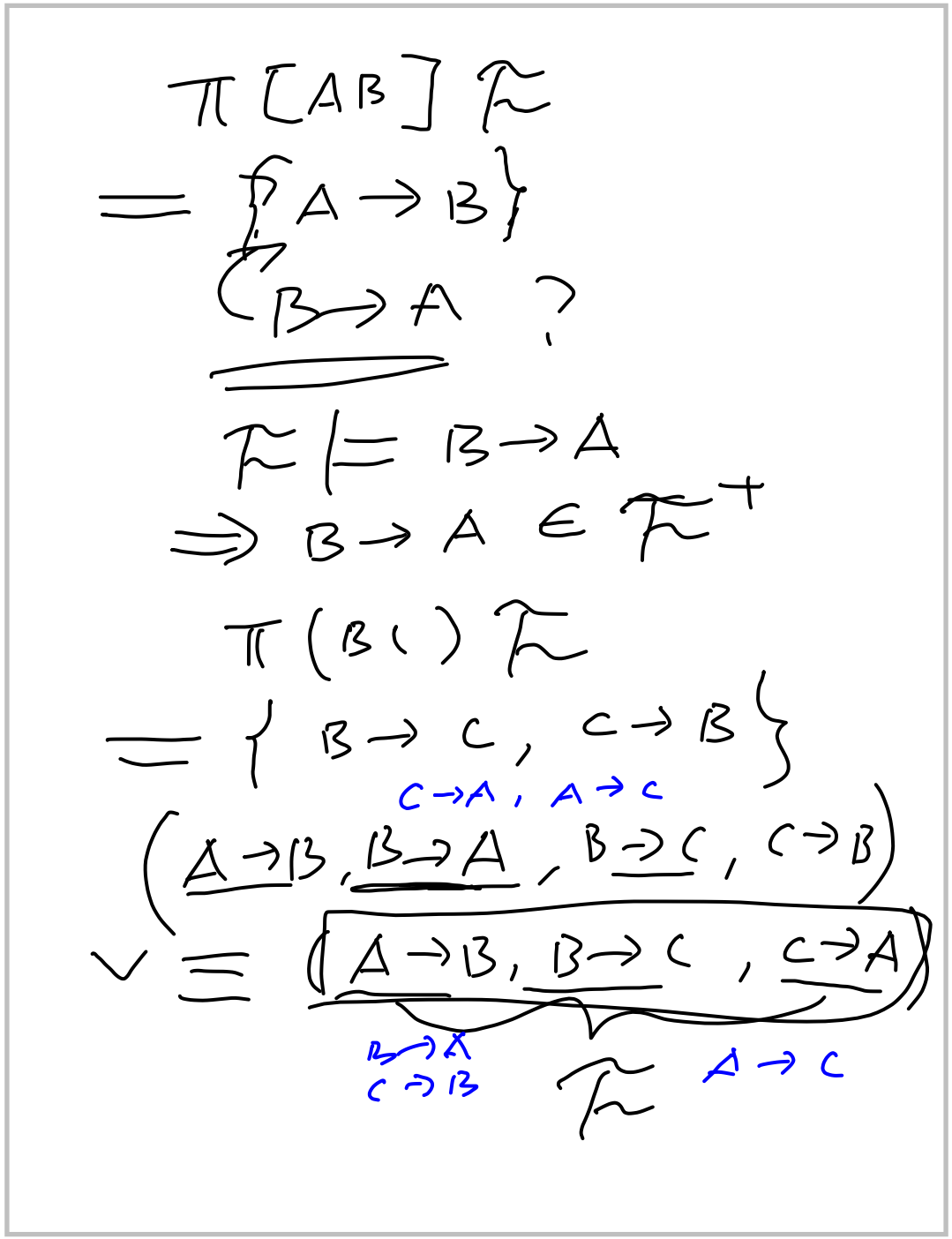
$R_2(B\ C)$

B	C
b_1	c_1
b_2	c_1

$A\ B\ C$

A	B	C
a_1	b_1	c_1
a_1	b_2	c_1
a_2	b_1	c_1
a_2	b_2	c_1

$R_1 \bowtie R_2$



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$V = \{ A\ B\ C \}$

$F = \{ A \to B,\ B \to C \}$

$R_1 : \{ABC\} \setminus \{C\} = \{AB\}$

$R_2 : \{BC\}$

$V = \{ A\ B\ C\ D \}$

$F = \{ A \to B,\ B \to E,\ C \to D \}$

$R_2 : \{ C\ D \}$

$R_1 : \{ABC\} \longrightarrow R_{12} : \{BC\}$
$R_{11} : \{AB\}$

$V = \{ A\ B\ C \}$

A	B	C
a_1	b_1	c_1
a_1	b_2	c_1

$F = \{ AB \rightarrow C,\ C \rightarrow A \}$

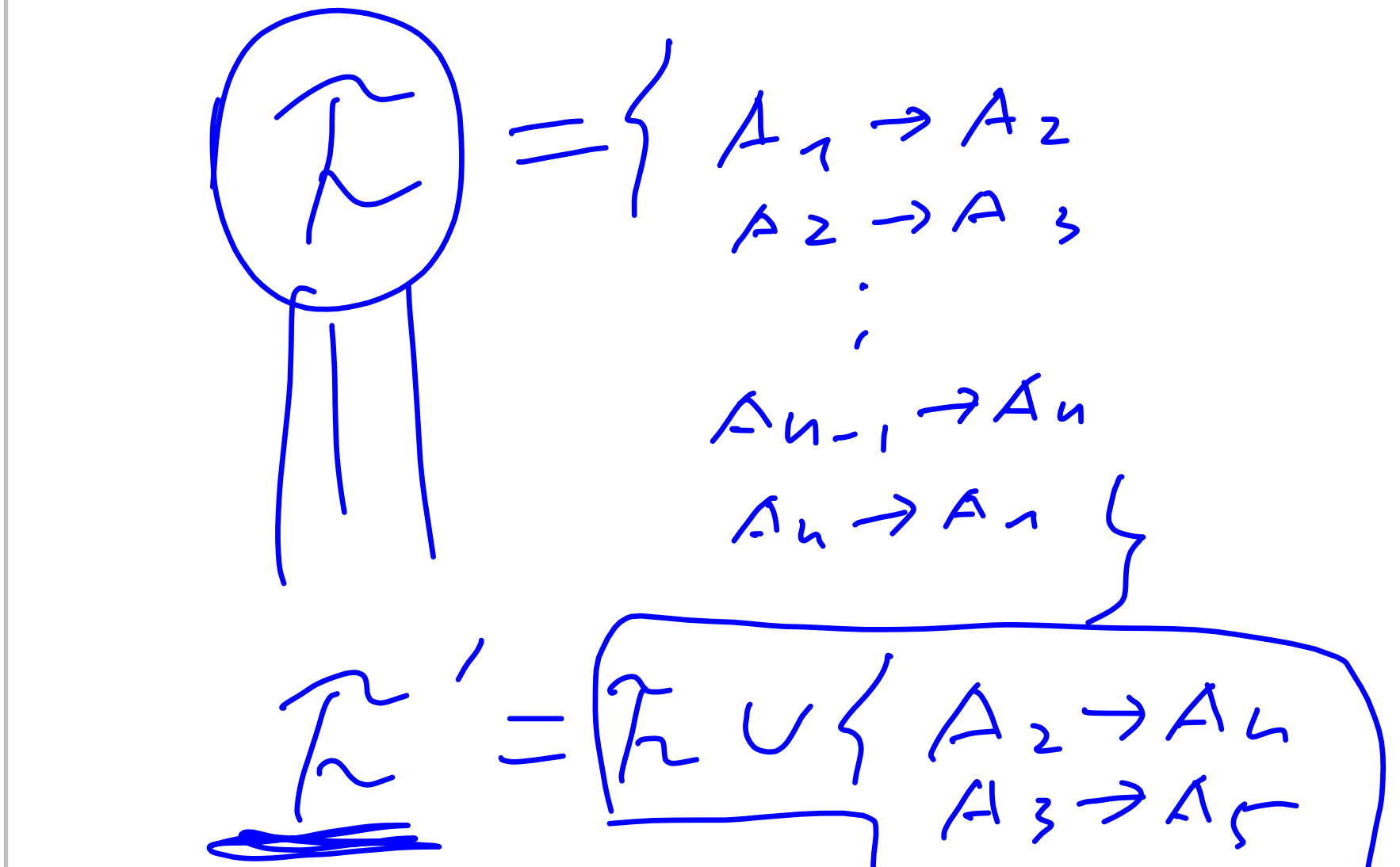
BCNF ?

$C \rightarrow A$: a superkey ?

$AB \rightarrow C$: a superkey !

$R_2 : \{ CA \}$ $F_2 : \{ C \rightarrow A \}$

$R_1 : \{ BC \}$ $F_1 : \phi$ ~~$C \rightarrow B$~~ ?


Γ = { A1 → A2
A2 → A3
:
An-1 → An
An → A1 }
Γ' = Γ ∪ { A2 → An
A3 → A5
: }

$F = \{ A \to B, \; B \to C, \; A \to C \}$

$F = \{ AB \to C \not\equiv A \to C, \; B \to C \}$

$A \to B$ }

$F \models A \to BC$

false $AB \to C \models A \to C$

True $A \to C \models AB \to C$

$F = \{A \to C\}$

$F \models AB \to C$

$AB \to BC$

$\equiv AB \to B, \; AB \to C$