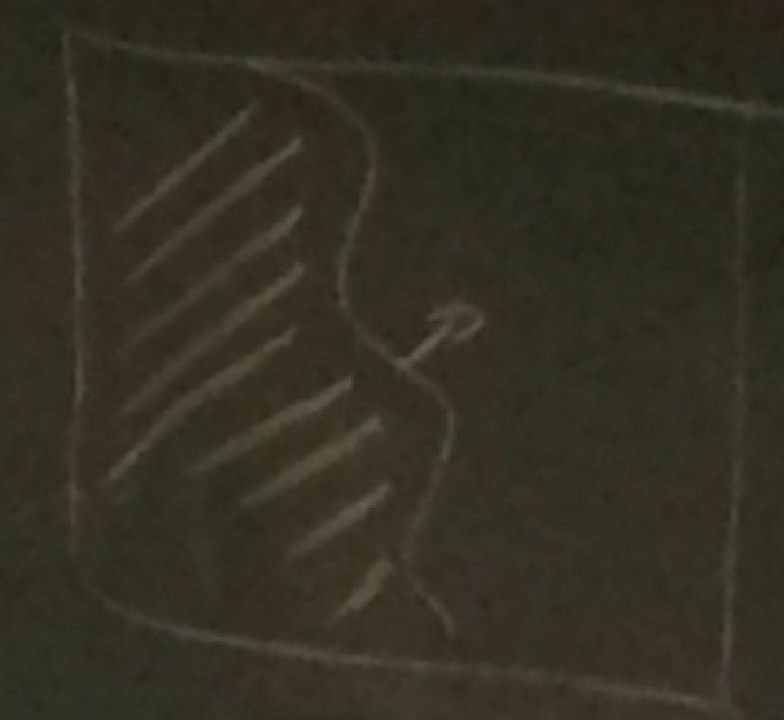
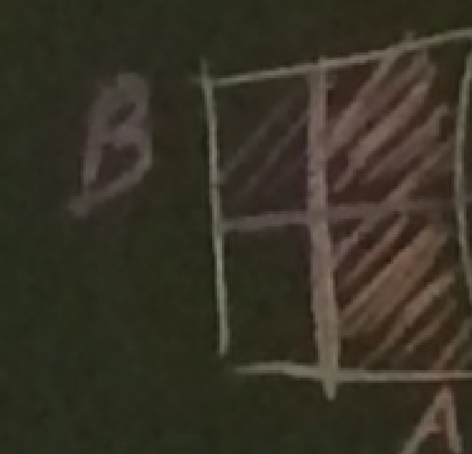
$\partial A := \{(a,b) \mid a \in A,\ b \in A^c\}$

A co-connected $:= A, A^c$ connected



A, B boundary disjoint $:= \partial A \cap \partial B = \emptyset$

no $(v_{00}, v_{01}, v_{11}, v_{10})$ 4-cycle s.t. $v_{ij} \in A \Leftrightarrow i=1$, $v_{ij} \in B \Leftrightarrow j=1$



$A+z := \{a+z \mid a \in A\}$

$T_A := \{A+nz \mid z \in \mathbb{Z}^d\}$

A toric $:= A$ co-connected and A, B boundary disjoint for all $B \in T_A$

Thm: if A, B co-connected, boundary disjoint $\Longrightarrow$ one of the following holds

1. $A \cap B = \phi$
2. $A^c \cap B^c = \phi$
3. $A \supset B$ or $B \supset A$

THM II: If A is toric, $|T_A| \neq 1$, then exactly one of the following holds:

(triv) 1. $\forall A_1, A_2 \in T_A \quad A_1 \cap A_2 = \emptyset$

(triv) 2. $\forall A_1, A_2 \in T_A \quad A_1^c \cap A_2^c = \emptyset$

(non triv) 3. T_A is totally ordered by inclusion, discrete and there is Δ s.t. $\forall B_1, B_2 \in T_A$, $B_1 \subsetneq B_2$ implies $B_1 + \Delta \subseteq B_2$.