Theorem. *Let* $\mathcal{A}$ *be a collection of sets (frequent sets in our setting) and* $\mathcal{S}$ *the collection of complements of the maximal sets in* $\mathcal{A}$*. Let* $\mathcal{X}$ *be the collection of minimal transversals of* $\mathcal{S}$ *and* $\mathcal{B}^-$ *the negative border of* $\mathcal{A}$*. In this setting* $\mathcal{X} = \mathcal{B}^-$*.*

Proof. Let's prove a bit more, more precisely that the collection of all transversals of $\mathcal{S}$ equals the collection of sets not in $\mathcal{A}$. Notice that in this problem setting $\mathcal{S}$ can also be the collection of all complements, not just of the maximal ones.

Let x be a transversal of $\mathcal{S}$. Then for each $a \in \mathcal{A} : x \cap a^C \neq \emptyset$ and so $x \notin \mathcal{A}$. If on the other hand $a \in \mathcal{A}$, then each transversal of $\mathcal{S}$ will contain an element of a^C and so a itself cannot be a transversal of $\mathcal{S}$. $\square$