

Definition 3.108. [06Y] (Solved on 2022-10-27) Let $P(x)$ be a logical proposition that depends on a free variable $x \in X$. We will say that

$P(x)$ holds eventually for $x \in X$ if	$\exists y \in X, \forall x \in X, x \geq y \Rightarrow P(x)$ holds;
$P(x)$ frequently applies for $x \in X$ if	$\forall y \in X, \exists x \in X, x \geq y$ such that $P(x)$ holds.