Continuity sec-cont

In this section we study the formulas that are continuous in some set B of monadic predicate symbols.

definition Let U and V be two A-valuations on the same domain D. For a set $B \subseteq A$, we write $U \leq_B^\omega V$ if $U \leq_B V$ and $U(b)$ is finite, for every $b \in B$.

Given a monadic logic and a formula $\phi \in (A)$ we say that ϕ is continuous in $B \subseteq A$ if ϕ is monotone in B and satisfies the following: equation eq:cont if (D, V), g $\models \phi then (D, U), g \models \phi for some U \leq_B^\omega V$.