-NoValue-

bas.1 Subestruturas

mod:bas:sub:sec

The domínio of a estrutura $\mathfrak{M}$ may be a subset of another $\mathfrak{M}'$. But we should obviously only consider $\mathfrak{M}$ a "part" of $\mathfrak{M}'$ if not only $|\mathfrak{M}| \subseteq |\mathfrak{M}'|$, but $\mathfrak{M}$ and $\mathfrak{M}'$ "agree" in how they interpret the symbols of the language at least on the shared part $|\mathfrak{M}|$.

mod:bas:sub:defn:substructure

Definição bas.1. Given estruturas $\mathfrak{M}$ and $\mathfrak{M}'$ for the same language $\mathcal{L}$, we say that $\mathfrak{M}$ is a *subestrutura* of $\mathfrak{M}'$, and $\mathfrak{M}'$ an *extension* of $\mathfrak{M}$, written $\mathfrak{M} \subseteq \mathfrak{M}'$, iff

1. $|\mathfrak{M}| \subseteq |\mathfrak{M}'|$,
2. For each constant $c \in \mathcal{L}$, $c^{\mathfrak{M}} = c^{\mathfrak{M}'}$;
3. For each n-place símbolo de função $f \in \mathcal{L}$ $f^{\mathfrak{M}}(a_1, \ldots, a_n) = f^{\mathfrak{M}'}(a_1, \ldots, a_n)$ for all $a_1, \ldots, a_n \in |\mathfrak{M}|$.
4. For each n-place símbolo de predicado $R \in \mathcal{L}$, $\langle a_1, \ldots, a_n \rangle \in R^{\mathfrak{M}}$ iff $\langle a_1, \ldots, a_n \rangle \in R^{\mathfrak{M}'}$ for all $a_1, \ldots, a_n \in |\mathfrak{M}|$.

mod:bas:sub:rem:substructure

Observação 1. If the language contains no constant or símbolos de função, then any $N \subseteq |\mathfrak{M}|$ determines a subestrutura $\mathfrak{N}$ of $\mathfrak{M}$ with domínio $|\mathfrak{N}| = N$ by putting $R^{\mathfrak{N}} = R^{\mathfrak{M}} \cap N^n$.

Créditos das Imagens

Referências Bibliográficas