Definition 4

Let Σ be a finite signature and $>$ a strict order on Σ. The **lexicographic path order** $>_{lpo}$ on terms (or literals) induced by $>$ is defined as follows: $s >_{lpo} t$ iff

1. $t \in Var(s)$ and $s \neq t$,

2. $s = f(s_1, \ldots, s_m)$, $t = g(t_1, \ldots, t_n)$ and

   (a) there is i, $1 \leq i \leq m$, such that $s_i \geq_{lpo} t$ or

   (b) $f > g$ and $s >_{lpo} t_j$, for all j, $1 \leq j \leq n$ or

   (c) $f = g$, there is i, $1 \leq i \leq m$, such that $s_1 = t_1, \ldots, s_{i-1} = t_{i-1}$ and $s_i >_{lpo} t_i$ and $s >_{lpo} t_j$ for all j, $i < j \leq n$,