

BEAUSSART

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Semantique des langages

TP4

1) Abstract Syntax

Heidi : Ordre = {deponer ; dretg ; sanester ; davent ; davos ; plaun ; returnar ; safermar}

$x \in \text{Ordre}$

$h \in \text{Ordre}, \text{seq} \in \text{listOrdre}$

$h :: \text{seq} \in \text{listOrdre}$

Tita : Whistle = {Court ; Whee ; Who ; Wheeo ; Hee ; Long}

$w \in \text{Whistle}$

$p \in \text{Pause}$

$w \in \text{Whistle}, p \in \text{Pause}, \text{seq} \in \text{List}$

$w :: \text{seq} \in \text{list} \mid p :: \text{seq} \in \text{List}$

2) Semantics

From Heidi :

$\text{deponer} \in \text{heidiOrders} \quad \text{court} \in \text{Whistles}$

$\text{deponer} \rightarrow h \text{ to } t [\text{court}, \text{court}]$

$\text{dretg} \in \text{heidiOrders} \quad \text{whee}, \text{who} \in \text{Whistles}$

$\text{dretg} \rightarrow h \text{ to } t [\text{whee}, \text{who}]$

$\text{sanester} \in \text{heidiOrders} \quad \text{wheet}, \text{wheeo} \in \text{Whistles}$

$\text{sanester} \rightarrow h \text{ to } t [\text{wheet}, \text{wheeo}]$

We do the same for the others ...

$\text{Whistle_head} = \text{W_h}, \text{Whistle_tail} = \text{W_t}, \text{Ord_head} = \text{O_h}, \text{Ord_tail} = \text{O_t}$

$\text{Whistle_lhs} = \text{W_lhs}, \text{Whistle_rhs} = \text{W_rhs}$

$$\begin{array}{c}
\text{Orders} = [\text{O_h}, \text{O_t}] \qquad \text{Whistles} = \text{W_h} :: \text{W_t} \quad \text{W_h} = [\text{W_lhs}, \text{W_rhs}] \\
\hline
\text{O_h} \rightarrow \text{h to t W_t} \qquad \text{O_t} \rightarrow \text{h to t W_rhs} \\
\hline
\text{Orders} \rightarrow \text{h to t Whistles}
\end{array}$$

3)

$$\begin{array}{c}
\hline
\text{w} \in \text{Whistles} \\
\hline
\text{deponer} \in \text{heidiOrders} \qquad \text{wheeo, hee, wheet} \in \text{Whistles} \\
\hline
\text{deponer} \rightarrow \text{h to t [wheeo, hee, wheet]} \\
\hline
\text{dretg} \in \text{heidiOrders} \qquad \text{wheet, hee} \in \text{Whistles} \\
\hline
\text{dretg} \rightarrow \text{h to t [hee, wheet]}
\end{array}$$

We do the same for the others ...

4)

no ambiguity because we have pauses.

5)

No because we have an infinite possibilities.