

procedure followSet($A \in N$, set T)

A is a non-terminal of the grammar ($A \in N$) and T is an empty set on the first call of procedure.

returns the set of symbols $\{t \in \Sigma_{\$} | S \Rightarrow^* \alpha A t \beta\}$,
and an updated set T

Recall notationally: $\Sigma_{\$} = \Sigma + \{\$\}$; $\mathcal{Y} \in N \cup \Sigma_{\$}$;

$C \in N$; $\alpha, \beta \in (N \cup \Sigma_{\$})^*$; P is the set of grammar production rules;

S is the goal or **starting symbol** of the grammar;

\emptyset is the Empty Set.

if($A \in T$) **then** (

return \emptyset, T

)

add A to T

F for Follow set

let F be a set

foreach ($p \in P$ with A in RHS of p) **do** (

foreach (\mathcal{Y} at the instances of A in the RHS of p) **do** (

 let π be the sequence of **all** symbols in $N \cup \Sigma_{\$}$ following \mathcal{Y}

 # $|\pi| = 0$ if A is last symbol of rule

if ($|\pi| > 0$) **then** (

 # I for ignorable

$G, I \leftarrow \text{firstSet}(\pi, \emptyset)$

$F \leftarrow F \cup G$

)

if($|\pi|$ is 0 OR (

$\pi \cap \Sigma_{\$} = \emptyset$ AND

 derivesToLambda(δ) is true for all $\delta \in \pi$)) **then** (

$G, I \leftarrow \text{followSet}(\text{LHS of } p, T)$

$F \leftarrow F \cup G$

)

)

)

return F, T