

# Generalized LL For CF Languages Intersection

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Let we have two CF grammars  $G_1$  and  $G_2$ . Both this grammars can be presented as deterministic recursive finite automaton. Position in grammar is number of automata state.

We will use two different GSS for construction of  $G_1$  and  $G_2$  intersection.

Let descriptor is  $(g_1, p_1, g_2, p_2)$  where  $g_1$  and  $g_2$  are GSS nodes,  $p_1$  and  $p_2$  are positions in grammars. Each triple  $(g_1, p_1, p_2)$  and  $(g_2, p_2, p_1)$  can be considered as descriptors in origins GLL (GSS node, position in grammar, position in input).

Let we have a descriptor of form  $(g_1, p_1, g_2, p_2)$ . Possible cases.

- There are token edges from  $p_1$  and  $p_2$  which are labelled with same tokens. For each pair of edges  $(p_1, t, q_1)(p_2, t, q_2)$  create a descriptor  $(g_1, q_1, g_2, q_2)$
- Other cases can be processed independently by the similar to classical GLL way.

Is it possible to store  $U$  and  $P$  in GSS-s?

Complexity?

Correctness?

Formalize in Coq?