

# (LL) Scattered Context Grammars

Adam Kožušník, [xkozus00@stud.fit.vutbr.cz](mailto:xkozus00@stud.fit.vutbr.cz)

Filip Weisser, [xweiss08@stud.fit.vutbr.cz](mailto:xweiss08@stud.fit.vutbr.cz)

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The Scattered Context Grammar was introduced in Journal of computer and system sciences (April 19, 1968) by Sheila Greibach and John Hopcroft. Scattered Context Grammar (SCG) is a modification of context-free grammars (CFG). Each rule in SCG can have more nonterminals on the left side and then must have the same number of strings from the alphabet on the right side.

This presentation introduces special variant of a Scattered Context Grammar, called LL Scattered Context Grammar. The only difference is the rules which are modified this way: (1) Every scattered context rule is composed of k-linear rules. (2) When you take first component of all rules, the result is LL context-free grammar. (3) And finally, every rule has to be applied in a leftmost way.

In this presentation, we will describe LL Scattered Context Grammars. SCG will be formally defined and we will show difference between them and context-free grammars. We also show example of language generated by SCG. Next, we will describe LL SCG and compare it with classic SCG. Finally, we show example of language generated by LL SCG.

## References

[MEDUNA Alexander](#) a [ZEMEK Petr](#). *Regulated Grammars and Automata*. New York: Springer US, 2014. ISBN 978-1-4939-0368-9.