SPECIAL FAMILIES OF SEWING LANGUAGES [1,2]

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ABSTRACT

We introduce and study some very special families of sewing languages. Each such family is a mildly context-sensitive family of languages. Moreover, some fundamental problems like the equivalence problem, the inclusion problem, etc. are decidable problems for these families of languages.

Keywords: Mildly context-sensitive family of languages, Marcus contextual grammars, matrix grammars.

1. Introduction

The investigations of *mildly context-sensitive families of languages* have appeared in connection with linguistics, see [2] and [7]. The aim of our paper is to introduce very simple sewing grammars that can define families of mildly context-sensitive families of languages. In addition, these families have good decidability properties. Sewing grammars and restricted sewing grammars are inspired by Marcus simple contextual grammars. For results on Marcus contextual grammars the reader is referred to [3, 7] and the recent monograph [6].

Our paper is a contribution to have a systematic study of those grammars that define mildly context-sensitive families of languages.

A mildly context-sensitive family of languages should contain the most significant languages that appear in connection with the study of natural languages. Languages

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