Dušan Jakub, xjakub19
Jan Chvála, xchval00

VYPe

Yacc: Ambiguities and Conflicts

Abstract

In our speech, we will focus on ambiguities and conflicts in Yacc grammars and how to track them.

In the first section we will describe the process of parsing the input using yacc and lex. We will introduce the pointer model, describe how it can simulate the process of parsing the input and show under which conditions a conflict can occur.

The process of finding an ambiguity in a grammar can be tedious without aid, therefore yacc is able to generate a state machine description file. In the next section we will show how we can use it for tracing conflicts. Two different types of conflicts (reduce / reduce and reduce / shift) will be introduced.

In the third and last section, real-life examples of conflicting grammars will be presented. For each of them, we will describe the origin of the conflict and show if it is possible to avoid it and how to do it.

Based on:

Chapter 8: Yacc Ambiguities and Conflicts. LEVINE, John R.; MASON, Tony; BROWN Dough. *Lex & yacc*. 2nd ed. Sebastopol: O'Reilly, 1992, s. 217-241. ISBN 978-1-56592-000-2.