Lua 5.1 Reference Manual

Abstract
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Keywords
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   Parsing Expression Grammars For Lua, version 0.9

LPeg

Introduction

LPeg is a new pattern-matching library for Lua, based on `Parsing Expression Grammars` (PEGs). This text is a reference manual for the library. For a more formal treatment of LPeg, as well as some discussion about its implementation, see `A Text Pattern-Matching Tool based on Parsing Expression Grammars`. (You may also be interested in my `talk` about LPeg given at the III Lua Workshop.)

Following the Snobol tradition, LPeg defines patterns as first-class objects. That is, patterns are regular Lua values (represented by userdata). The library offers several functions to create and compose patterns. With the use of metamethods, several of these functions are provided as infix or prefix operators. On the one hand, the result is usually much more verbose than the typical encoding of patterns using the so called *regular expressions* (which typically are not regular expressions in the formal sense). On the other hand, first-class patterns allow much better documentation (as it is easy to comment the code, to use auxiliary variables to break complex definitions, etc.) and are extensible, as we can define new functions to create and compose patterns.

For a quick glance of the library, the following table summarizes its basic operations for creating patterns:

http://www.lua.org/manual/5.1/manual.html