gvizparse user manual

Title	gvizparse (Parser for the Graphviz/dot grammar).
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Rev. history	
v1.0.0	2014-10-04 Updated and uploaded to github.

1. Introduction

`gvizparse` is a flex/bison-based parser for the Graphviz/dot graph representation format supported by the popular Graphviz graph layout and visualization tool (http://www.graphviz.org).

This grammar is based on the original grammar written by Richard Schneider (richard@blackhen.co.nz) for the GOLD parser builder (http://www.goldparser.org).

The distribution also contains a couple of sample test files in the /test subdirectory in order to evaluate Graphviz files both with and without custom attributes.

Richard Schneider's version of the Graphviz grammar for the GOLD parser builder can still be downloaded from the GOLD Parsing System's website: http://goldparser.org

2. File listing

The `gvizparse` file collection includes the following files:

/gvizparse	Top-level directory
AUTHORS	List of authors.
LICENSE	License argeement (Modified BSD license).
Makefile	GNU makefile for building the parser.
README.rst	This file.
README.html	HTML version of README.
README.pdf	PDF version of README.

VERSION	Current version.
graphviz.grm	The GOLD parser grammar for Graphviz.
graphviz.l	Lex/flex lexical analyzer for the Graphviz grammar.
graphviz.grm	Bison/yacc syntax analyzer for the Graphviz grammar.
rst2docs.sh	Bash script for generating the HTML and PDF versions of the documentation (README).
/test	Test files subdirectory
datapath.dot	Graphviz file representing a partial datapath.
datapath.dot.png	PNG visualization of the above Graphviz file.
datapath_attrs.dot	Graphviz file with custom attributes (operator, input, output, hardware) representing a partial datapath.
datapath_attrs.dot.png	PNG visualization of the above Graphviz file.
test.sh	Bash shell script for running the tests.

3. Usage

In order to build the Graphviz parser use the Makefile from the top-level directory:

```
$ make clean ; make
```

This will generate diagnostic output for the parser:

graphviz.output: Summary of the automaton's state transitions including shift-reduce and reduce-reduce conflicts (there are no such conflicts present in the Graphviz grammar).

graphviz.dot Graphviz/dot representation of the automaton.

graphviz.vcg GDL/VCG representation of the automaton.

and the actual parser executable, `gvizparse` or `gvizparse.exe`.
To execute the parser on a sample file, first change directory to the test subdirectory:

```
$ cd test
```

and then run the parser on a sample input:

```
$ ../gvizparse.exe datapath.dot
```

The parser can also be tested by running a sample provided script as follows:

```
$ ./test.sh
```

4. Prerequisites

There are no external dependencies for building the Graphviz parser. However, in order to visualize the sample graphs in `/gvizparse/test` the Graphviz distribution is

needed, which can be downloaded from http://www.graphviz.org for a number of host OS environments. `test.sh` assumes that Graphviz' `dot` executable is already in the `PATH`.