LINTING TOOL USER GUIDE

DollySoft

LOOKING AHEAD IN TECHLOGY…

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WELCOME TO THE LINTING TOOL HELP BROWSER

HOW TO USE LINTING TOOL

1. DOWNLOAD
2. INSTALL
3. RUN A SIMPLE PROGRAM

1. DOWNLOAD

a. WHAT TO DOWNLOAD

You have to download "install" directory of verilog named "Linting tool redhat linux server version 5 32 bit Intel dual core" Which is "redhat linux server version 5" and "32 bit Intel dual core" supported.

b. WHERE FROM AND HOW TO DOWNLOAD

Log on to www.dollysoft.co.in and go to Products page. When you go there you will see few products are listed. Then click the "Download" link under "LINTING TOOL" to download. Then a new window will appear with three links. Click the first link "Linting tool redhat linux server version 5 32 bit Intel dual core" to download verilog install directory.

2. INSTALL

a. This is a tar zip file named "lint_rhls2.6_linux32bit.tgz".
Firstly untar the downloaded .tgz file by running

```
$ tar -xzvf lint_rhls2.6_linux32bit.tgz
```

You will get an “install” directory after untarring. This is an iverilog install directory.
It has all the binaries needed to run iverilog 0.8.7. In addition it has 2 files lint.tgt and lint.conf in lib/ivl-0.8. This is for your information, no action is needed here.

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3. RUN A SIMPLE PROGRAM

a. Create a directory where you write your test cases.
b. Copy lint.res file in this directory or create a "lint.res" file.
c. By default all rules are active. To selectively turn on/off rule you need to edit the lint.res file or create a “lint.res” file and write the rule no, you want to run and active the rule no. Some rules have configurable parameter. This is optional. If you want to configure the variable then you have to write the configurable parameter otherwise you can use default parameter. The format is as follows...

```
//////////////  lint.res  //////////////

    rule=1022
    active=yes
    rule=1088
    active=yes
    Etc.
```

MORE ABOUT res FILE

If you do not have a lint.res file then all rules are active. If you have a lint.res file but it is blank then all rules are inactive. To turn on few rules and to keep others inactive you should write lint.res file as shown in the above example. Here only rule no 1022 and 1088 is active. All the other rules are inactive. To turn on most of the rules and to turn off few rules you should write lint.res as follows...

```
//////////////  lint.res  //////////////

    all
    rule=1028
    active=no
    rule=1045
    active=no
    rule=1006
    active=no
    Etc.
```

This means all rules are active except rule no 1028, 1045 and 1006.

You can control behavior of many rule by adding more “key=value” lines under each rules in the lint.res file. It is called configurable parameter. This is optional. For example...

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```
///////////////  lint.res  ///////////////

    rule=1272
    active=no
    operand width=16
```

Here if the bit-width of the operand is more than 16 bit then you will get a violation massage. If you make operand_width=32 then violation will come when it is more that 32 bit. Another example is given below...

```
///////////////  lint.res  ///////////////

    rule=1298
    active=yes
    comb_limit=4
```

Here if there are more than 4 combinational gates between 2 sequential elements then the snake path rule violation massage will come.

A sample of lint.res file is given below...

```
////////////////  lint.res  ////////////////////

    rule=1001
    active=yes
    rule=1272
    active=no
    operand_width=16    //  configurable parameter (optional). Default is given 8.
```

d. Write a simple test case or copy the code given below.

```
////////////////  Document.v  /////////////////

    module test (C, a, b);
      input a, b;
      output C;
      assign C = a&b;
    endmodule
```

Save this code in Document.v file

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e. Run

You have to set IVERILOG_ROOT correctly and also add install/bin to your path environment. Then you can run linting tool from anywhere (in the same shell/xterm where you have set the path).

To set IVERILOG_ROOT

Command: setenv IVERILOG_ROOT <install directory path>

To set path variable

Command: set path=(<install/bin directory path> $path)

To run a testcase

Command: iverilog-0.8 -tlint <verilog/vhdl file>

For example...

$ iverilog-0.8 -tlint Document.v

In the terminal you can see...
All the violations are logged in the file lint.log.

f. OUTPUT

Violation messages are displayed on the screen and it is logged into a file called "lint.log". This file is created in the same directory where the command is run.

Open the lint.log file and watch the warning/warnings.

////////////// lint.log //////////////////////

Violated 1001: Signals test.C cannot be in UPPER CASE.
TOTAL NUMBER OF VIOLATIONS IS: 1.

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THANK YOU

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