

Verilog :

```
srikar@srikar-VirtualBox:~$ iverilog -V
Icarus Verilog version 12.0 (stable) ()

Copyright (c) 2000-2021 Stephen Williams (steve@icarus.com)

This program is free software; you can redistribute it and/or modify
it under the terms of the GNU General Public License as published by
the Free Software Foundation; either version 2 of the License, or
(at your option) any later version.

This program is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the
GNU General Public License for more details.

You should have received a copy of the GNU General Public License along
with this program; if not, write to the Free Software Foundation, Inc.,
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301, USA.

Icarus Verilog Preprocessor version 12.0 (stable) ()

Copyright (c) 1999-2021 Stephen Williams (steve@icarus.com)
```

Gtkwave :

```
vvp.tgt: Icarus Verilog VVP Code Generator 12.0 (stable) ()

Copyright (c) 2001-2021 Stephen Williams (steve@icarus.com)

This program is free software; you can redistribute it and/or modify
it under the terms of the GNU General Public License as published by
the Free Software Foundation; either version 2 of the License, or
(at your option) any later version.

This program is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the
GNU General Public License for more details.

You should have received a copy of the GNU General Public License along
with this program; if not, write to the Free Software Foundation, Inc.,
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301, USA.

srikar@srikar-VirtualBox:~$ gtkwave --version
GTKWave Analyzer v3.3.116 (w)1999-2023 BSI

This is free software; see the source for copying conditions. There is NO
warranty; not even for MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.
```

Yosys :

```
srikar@srikar-VirtualBox:~$ cd yosys
srikar@srikar-VirtualBox:~/yosys$ yosys
-----
| yosys -- Yosys Open SYnthesis Suite
| Copyright (C) 2012 - 2025 Claire Xenia Wolf <claire@yosyshq.com>
| Distributed under an ISC-like license, type "license" to see terms
\-----
Yosys 0.57+148 (git sha1 a686c5a73, g++ 13.3.0-6ubuntu2~24.04 -fPIC -O3)
```

OpenSTA:

```
srikar@srikar-VirtualBox:~/cudd/OpenSTA/build$ sta
OpenSTA 2.7.0 3b2961ebd2 Copyright (c) 2025, Parallax Software, Inc.
License GPLv3: GNU GPL version 3 <http://gnu.org/licenses/gpl.html>

This is free software, and you are free to change and redistribute it
under certain conditions; type 'show_copying' for details.
This program comes with ABSOLUTELY NO WARRANTY; for details type 'show_warranty'.
```

Ngspice :

```
srikar@srikar-VirtualBox:~$ ngspice -v
*****
** ngspice-42 : Circuit level simulation program
** Compiled with KLU Direct Linear Solver
** The U. C. Berkeley CAD Group
** Copyright 1985-1994, Regents of the University of California.
** Copyright 2001-2023, The ngspice team.
** Please get your ngspice manual from https://ngspice.sourceforge.io/docs.html
** Please file your bug-reports at http://ngspice.sourceforge.net/bugrep.html
** Creation Date: Sun Mar 31 20:15:14 UTC 2024
*****
srikar@srikar-VirtualBox:~$ gnuplot --version
gnuplot 6.0 patchlevel 0
srikar@srikar-VirtualBox:~$
```

Docker :

```
srikar@srikar-VirtualBox:~$ docker run hello-world

Hello from Docker!
This message shows that your installation appears to be working correctly.

To generate this message, Docker took the following steps:
1. The Docker client contacted the Docker daemon.
2. The Docker daemon pulled the "hello-world" image from the Docker Hub.
   (amd64)
3. The Docker daemon created a new container from that image which runs the
   executable that produces the output you are currently reading.
4. The Docker daemon streamed that output to the Docker client, which sent it
   to your terminal. I

To try something more ambitious, you can run an Ubuntu container with:
$ docker run -it ubuntu bash

Share images, automate workflows, and more with a free Docker ID:
https://hub.docker.com/

For more examples and ideas, visit:
https://docs.docker.com/get-started/
```

srikar@srikar-VirtualBox:~\$

Verifying that all the dependencies for OpenLANE are installed :

```
srikar@srikar-VirtualBox:~$ git --version
git version 2.43.0
srikar@srikar-VirtualBox:~$ docker --version
Docker version 28.4.0, build d8eb465
srikar@srikar-VirtualBox:~$ python3 --version
Python 3.12.3
srikar@srikar-VirtualBox:~$ python3 -m pip --version
pip 24.0 from /usr/lib/python3/dist-packages/pip (python 3.12)
srikar@srikar-VirtualBox:~$ make --version
GNU Make 4.3
Built for x86_64-pc-linux-gnu
Copyright (C) 1988-2020 Free Software Foundation, Inc.
License GPLv3+: GNU GPL version 3 or later <http://gnu.org/licenses/gpl.html>
This is free software: you are free to change and redistribute it.
There is NO WARRANTY, to the extent permitted by law.
srikar@srikar-VirtualBox:~$ python3 -m venv -h
usage: venv [-h] [--system-site-packages] [--symlinks | --copies] [--clear]
             [--upgrade] [--without-pip] [--prompt PROMPT] [--upgrade-deps]
             ENV_DIR [ENV_DIR ...]

Creates virtual Python environments in one or more target directories.

positional arguments:
  ENV_DIR            A directory to create the environment in.

options:
  -h, --help          show this help message and exit
  --system-site-packages
                      Give the virtual environment access to the system
                      site-packages dir.
  --symlinks          Try to use symlinks rather than copies, when symlinks
                      are not the default for the platform.
  --copies            Try to use copies rather than symlinks, even when
                      symlinks are the default for the platform.
  --clear             Delete the contents of the environment directory if it
                      already exists, before environment creation.
  --upgrade           Upgrade the environment directory to use this version
                      of Python, assuming Python has been upgraded in-place.
  --without-pip       Skips installing or upgrading pip in the virtual
                      environment (pip is bootstrapped by default)
  --prompt PROMPT    Provides an alternative prompt prefix for this
                      environment.
  --upgrade-deps     Upgrade core dependencies (pip) to the latest version
                      in PyPI
```