Python Dependency Setup

```
$ sudo apt-get install python-is-python3

$ sudo apt-get install -y make build-essential libssl-dev zlib1g-dev libbz2-dev \
  libreadline-dev libsqlite3-dev wget curl llvm libncurses5-dev libncursesw5-dev \ xz-utils tk-dev libffi-dev liblzma-dev python3-openssl git

$ curl -L https://raw.githubusercontent.com/yyuu/pyenv-installer/master/bin/pyenv-installer | bash
```

Add the following to ~/.bashrc

```
export PATH="/home/$USER/.pyenv/bin:$PATH"
eval "$(pyenv init -)"
eval "$(pyenv init --path)"
eval "$(pyenv virtualenv-init -)"
```

Terminal

```
$ source ~/.bashrc
$ sudo apt install python3.10-venv
$ pyenv virtualenv sample
$ pyenv activate sample

$ pip install cocotb
```

Bluespec Installation

```
$ apt-get install -y \ ccache \
autoconf \ bison \
build-essential \ flex \
ghc \ git \ gperf \
iverilog \
libghc-old-time-dev \ libghc-regex-compat-dev \ libghc-syb-dev \
libghc-split-dev \ tcl-dev
```

```
$ git clone --recursive https://github.com/B-Lang-org/bsc.git
$ cd $PWD/bsc
$ make -j $(nproc) GHCJOBS=2 GHCRTSFLAGS='+RTS -M5G -A128m -RTS' install-src
```

ADD IN THE END OF ~/.BASHRC

```
export PATH={insert your bluespec installation path here}/bsc/inst/bin:$PATH

export LD_LIBRARY_PATH={insert your bluespec installation path here}/bsc/bsc_build/lib:$LD_LIBRARY_PATH
```

```
$ source ~/.bashrc
$ bsc --help
```

Verilator Installation

```
$ sudo apt-get install git perl python3 make autoconf g++ flex bison ccache
$ sudo apt-get install libgoogle-perftools-dev numactl perl-doc
$ sudo apt-get install libfl2
# Ubuntu only (ignore if gives error)
$ sudo apt-get install libfl-dev
# Ubuntu only (ignore if gives error)
$ sudo apt-get install zlibc zlib1g zlib1g-dev
# Ubuntu only (ignore if gives error)
```

```
$ git clone https://github.com/verilator/verilator
$ cd verilator
$ git checkout v4.106
$ unset VERILATOR_ROOT
```

```
$ autoconf
$ ./configure
$ make -j `nproc`
$ sudo make install
```

Demo (mbox)

```
$ git clone https://gitlab.com/shaktiproject/cores/mbox.git
$ cd mbox/
$ make generate_verilog TOP_MODULE=mk_non_restoring_divider
TOP_DIR=non_restoring_divider TOP_FILE=non_restoring_divider.bsv
# Simulation env clone
$ pyenv activate sample
$ pip install cocotb
$ git clone https://gitlab.com/shaktiproject/verification_environment/mbox-verif.git
$ cd mbox-verif
$ make SIM=verilator TOP_DIR=<design_path >/mbox/verilog
TOP_MODULE=mk_non_restoring_divider COUNT=4
```