Installing the Spike RISC-V Simulator for MAC

Installing dependencies

brew install python3 gawk gnu-sed gmp mpfr libmpc isl zlib expat

Installing Spike

brew tap riscv/riscv

brew install riscv-isa-sim

It will install device tree compiler (dtc) automatically

Download and unzip pre-built RISCV toolchain

First download the prebuilt toolchain from https://static.dev.sifive.com/dev-tools/riscv64-unknown-elf-gcc-8.3.0-2020.04.0-x86_64-apple-darwin.tar.gz

Or our course homepage.

Use the following command to unzip it.

tar -vxzf riscv64-unknown-elf-gcc-8.3.0-2020.04.0-x86_64-apple-darwin.tar.gz

Then change the folder's name:

move riscv64-unknown-elf-gcc-8.3.0-2020.04.0-x86_64-apple-darwin riscv

Set environment variables (preferably move these commands into ~/.bash_profile)

export RISCV=/path/from/home/to/riscv (Your own RISCV toolchain path)

export PATH=$PATH:$RISCV/bin

Now, to build the Proxy Kernel

git clone https://github.com/riscv/riscv-pk

cd riscv-pk

mkdir build

cd build

../configure --prefix=$RISCV --host=riscv64-unknown-elf

make

make install

Check if the installation is successful

Create a test.c, and enter the following codes:

```c
#include <stdio.h>
        int main() {
        printf("Hello world!\n");
}
```

Then

riscv64-unknown-elf-gcc test.c

spike /path/from/home/to/riscv/riscv-pk/build/pk a.out