

CIRM 2024 Research School in Discrete Mathematics and Computer Science Walnut installation

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1 Installing Walnut

Follow the instructions available at

<https://cs.uwaterloo.ca/~shallit/walnut.html>

The most recent version of Walnut is available at

<https://github.com/firetto/Walnut>

On this github site, click on the green “Code” button, then choose “Download Zip”.

When you get the zip file downloaded, you might (depending exactly on what system you use) just click on it to extract it, otherwise you might have to use a zip extractor.

Now you should have a directory called something like “Walnut-main”.

Go into that directory and there is a command called “build.sh”.

Execute that command – on Jeff’s Unix system you type

```
./build.sh
```

to do that. That should take a few seconds to compile.

Then go to the “bin” directory and type

```
java Main.Prover
```

that gets you into Walnut. To leave, type `quit;`.

Depending on your system, you may need a “Java Development Kit” to install Walnut. If so, try the command

```
sudo apt install openjdk-11-jdk
```

from a terminal window. Once that is done, to compile Walnut, go to the Walnut directory and type

```
sh build-sh (Windows)
```

It might be that you can get by without the “sh” before the command, depending on your system. Or

```
./build-sh (Linux)
```

That should do it! Now you are ready to go to the “bin” directory and type

```
java Main.Prover
```

2 Installing Eclipse

You can either enter commands in the terminal to work with Walnut. Otherwise, you can use a Java IDE, like Eclipse. To install it, go to

```
https://github.com/hamousavi/Walnut
```

and download the file “Automatic Theorem Proving in Walnut.pdf”. Then follow the instructions in Section 6.1.

3 Installing Graphviz

Walnut produces graphical representations of automata among other things. Those representations are files with .gv extensions. In order to open these files you need to install Graphviz, a graph visualization package which is available for all platforms. To do so, go to

```
https://graphviz.org/download/
```

and follow the instructions.

On a Linux system, a file of the form file.gv can be converted to a pdf file with a command like

```
dot -Tpdf file.gv > file.pdf
```

All of these files go to the Result directory.