

## **Nand2Tetris Setup Guide for Apple OS X**

This guide describes how to install and run the Nand2Tetris software suite on Apple OS X.

### **Install Java**

Older versions of Apple OS X come with Java pre-installed, so there may be no need to install Java on your Mac. Furthermore, there is no need to modify your Java CLASSPATH.

To find out if Java is already installed on your Mac, start the Terminal application (Applications - Utilities - Terminal). Once the terminal window appears, type the following:

```
java -version
```

Depending on what happens next, you may or may not need to install Java.

If you see an output on the console such as java version "1.8.0\_31", then Java is already installed. You can proceed to install the Nand2Tetris software suite.

If a window appears, stating To use the "java" command-line tool you need to install a JDK, then click the More Info... button. A web page will open, and you should follow the instructions to download and install Java.

After installing Java, verify the installation by starting a new Terminal window and typing java -version. You should see something like java version "1.8.0\_31".

### **Install the Nand2Tetris Software Suite**

Double-click the .zip file you've downloaded from the Nand2Tetris Software page. OS X will automatically extract the contents of the .zip file to a folder. Move this folder to your desktop.

To run any one of the Nand2Tetris tools on OS X, you must use the command line. Start the Terminal application (Applications - Utilities - Terminal). Once the terminal window appears, type the following:

```
~/Desktop/nand2tetris/tools/HardwareSimulator.sh
```

(The first character, called a "tilde," is located to the left of the number 1 key on most keyboards.) At this point, the supplied Hardware Simulator should started running in a new window.

From now on, when you wish to run the supplied Hardware Simulator, simply execute the command shown above.

All the supplied Nand2Tetris software tools are started in a similar way: just replace HardwareSimulator with the name of the software tool you wish to run.

Tool	Command
Hardware Simulator	HardwareSimulator.sh
CPU Emulator	CPUEmulator.sh
Assembler	Assembler.sh

VM Emulator VMEulator.sh

Jack Compiler JackCompiler.sh

To run any of these tools, open a Terminal window and type the following, replacing COMMAND with one of the commands listed above.

~/Desktop/nand2tetris/tools/COMMAND

**That's a lot to type. Can I shorten this?**

Indeed you can. Open a Terminal window and type (once and for all):

```
echo "export PATH=$PATH:~/Desktop/nand2tetris/tools" >> ~/.bash_profile ;  
source ~/.bash_profile
```

You can now run any of the supplied Nand2Tetris software tools by typing just the command. For example:

HardwareSimulator.sh

**Why Am I Seeing a "Command Not Found" Message?**

The likely reason is that your folder location is not on the Mac OS X desktop, which is assumed by the instructions above. Replace Desktop above with the correct path to your nand2tetris/tools folder, or move your nand2tetris folder to your desktop.