Procedure for installing WormBot firmware into the microcontroller

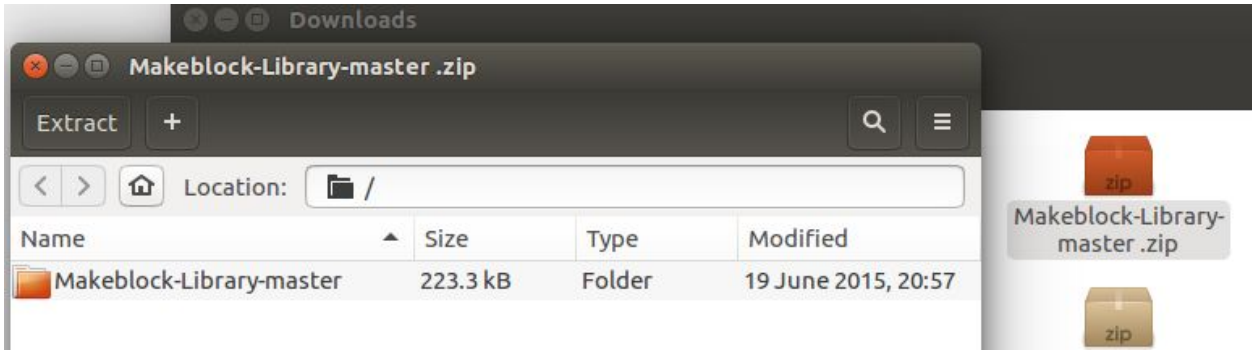
1. From a terminal window, install the arduino IDE with the following command:

sudo apt-get install arduino

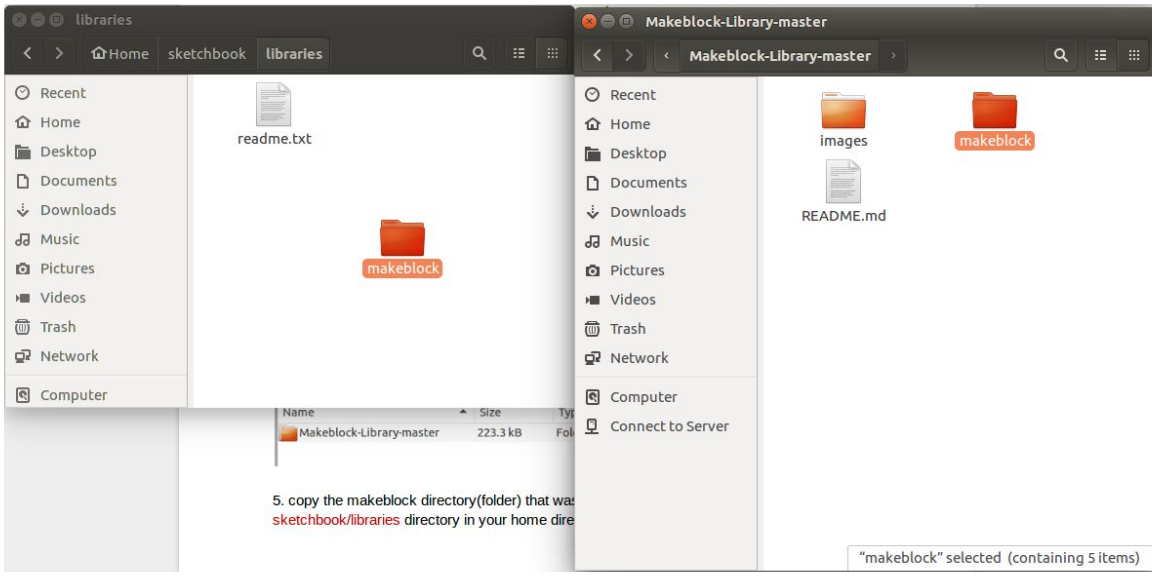
2. After installation the software will ask for your password to add the user to the dial-out group to access the serial connection to the arduino board, please enter your password then reboot the system.

3. Access the MakeBlock library from the github wormbot repository directory, this is usually /home/YourUserNameHere/wormbot/wormbot_firmware **NOTE this is NOT the most recent release of the library, if you do not use this legacy library the firmware will fail to compile.**

4. To install the library, decompress the .zip file



5. copy the makeblock directory(folder) that was compressed in the zip file into the sketchbook/libraries directory in your home directory



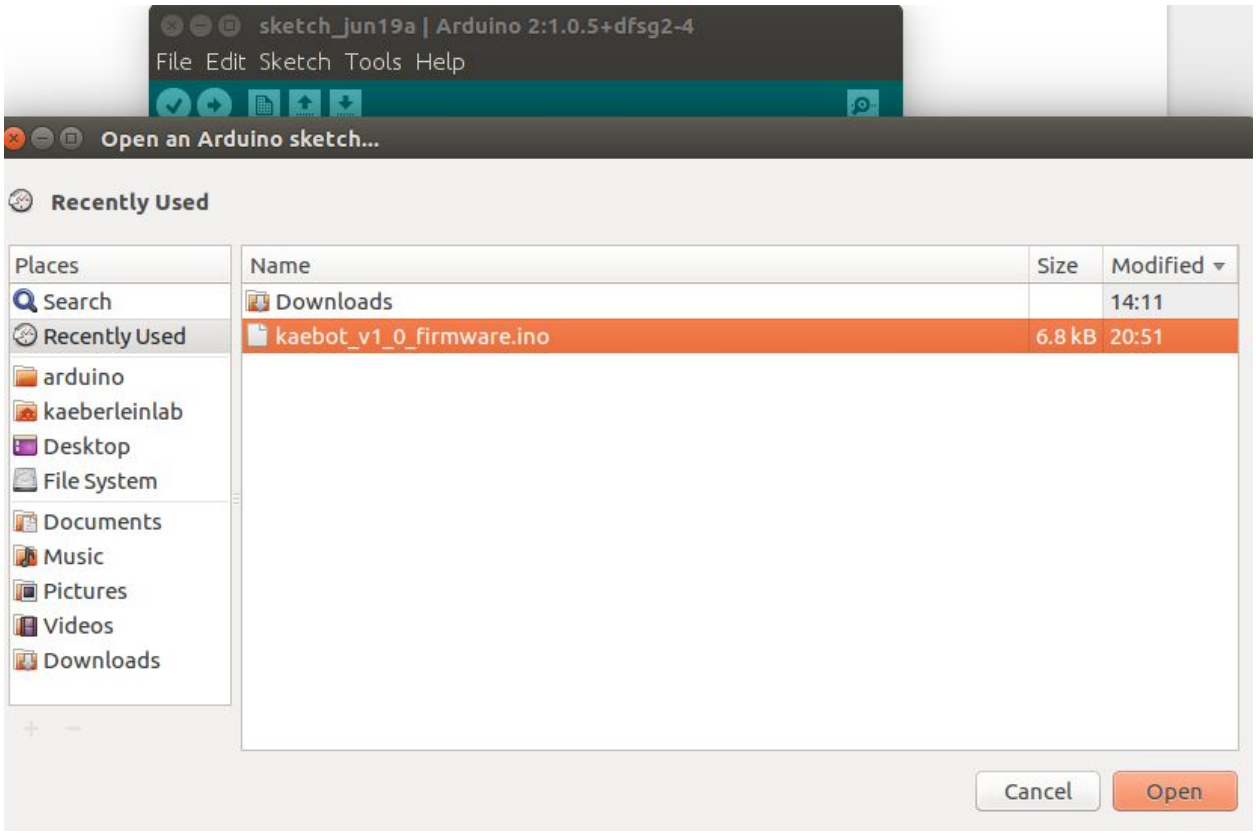
6. The WormBot firmware file will also be present in this directory (/home/YourUserNameHere/wormbot/wormbot_firmware)

7. Make certain that the included micro USB cable from the XY plotter robot kit is plugged into the Makeblock Orion board and plugged into to the linux server.

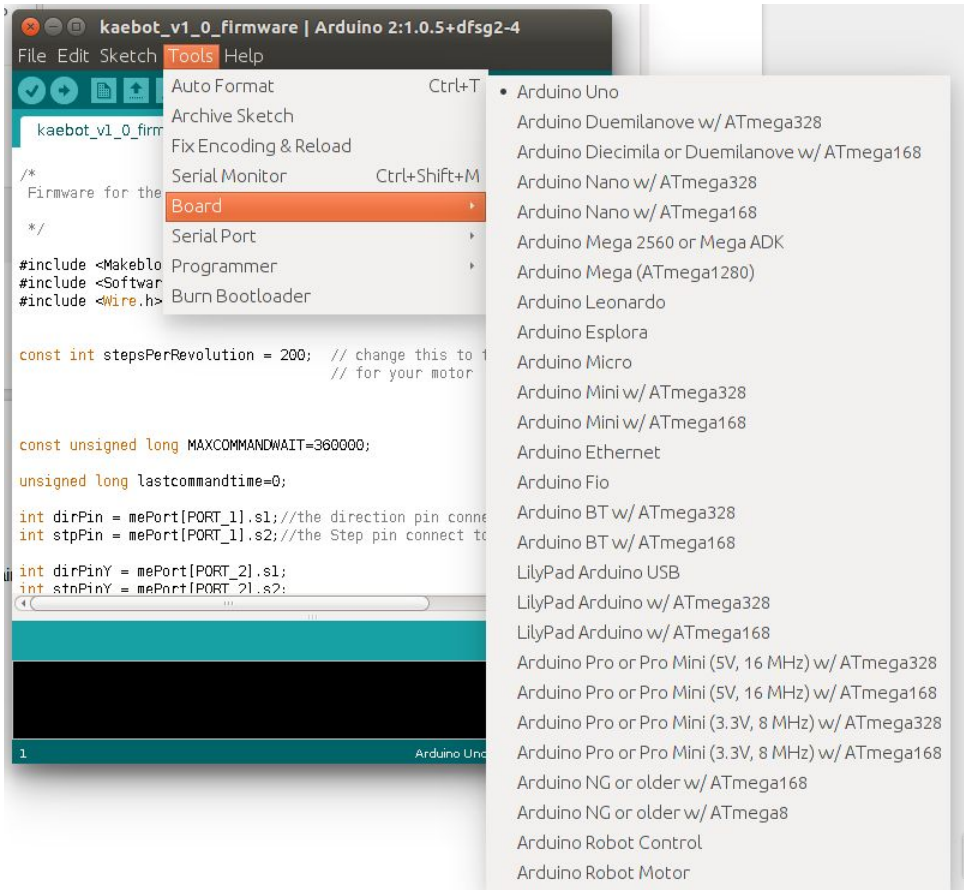
8. Launch the arduino IDE by opening a terminal and entering the command:

arduino

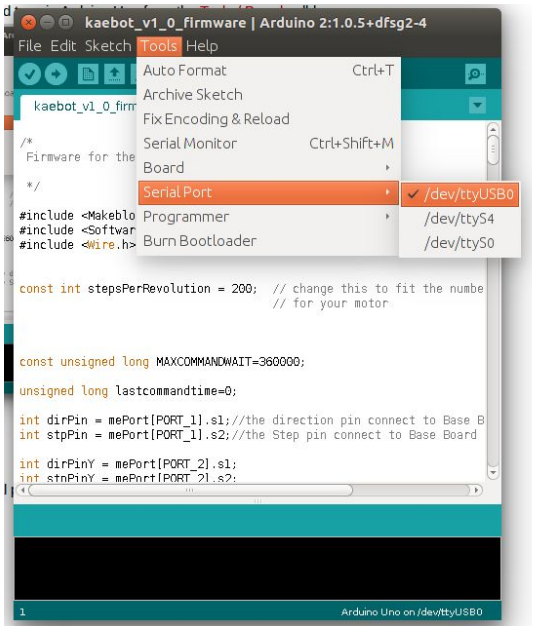
9. From the Arduino File menu select Open, and select the wormbot_firmware.ino file downloaded from github in the arduino IDE



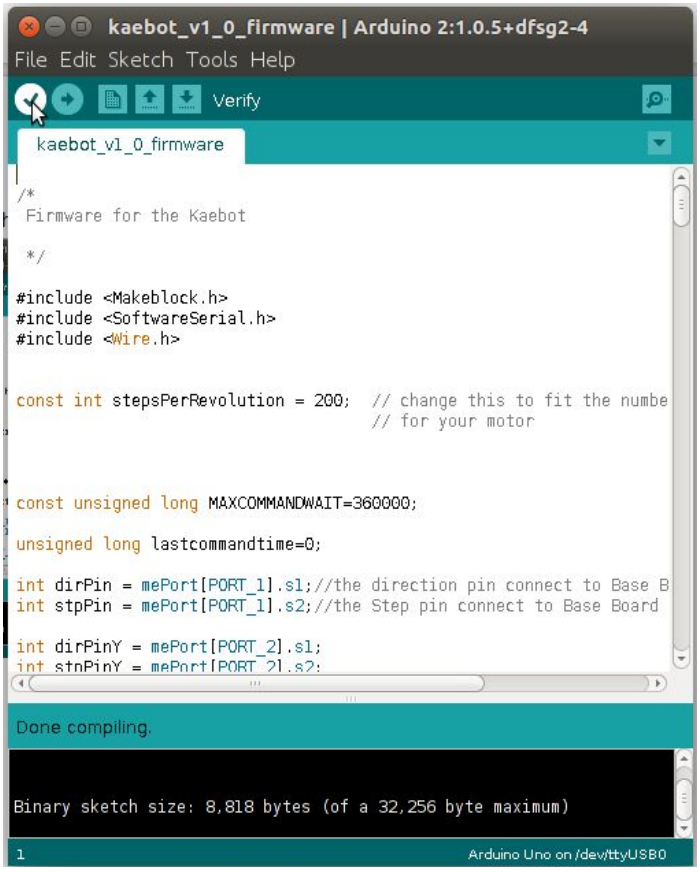
10. Make certain the board type is Arduino Uno from the Tools / Board pulldown menu



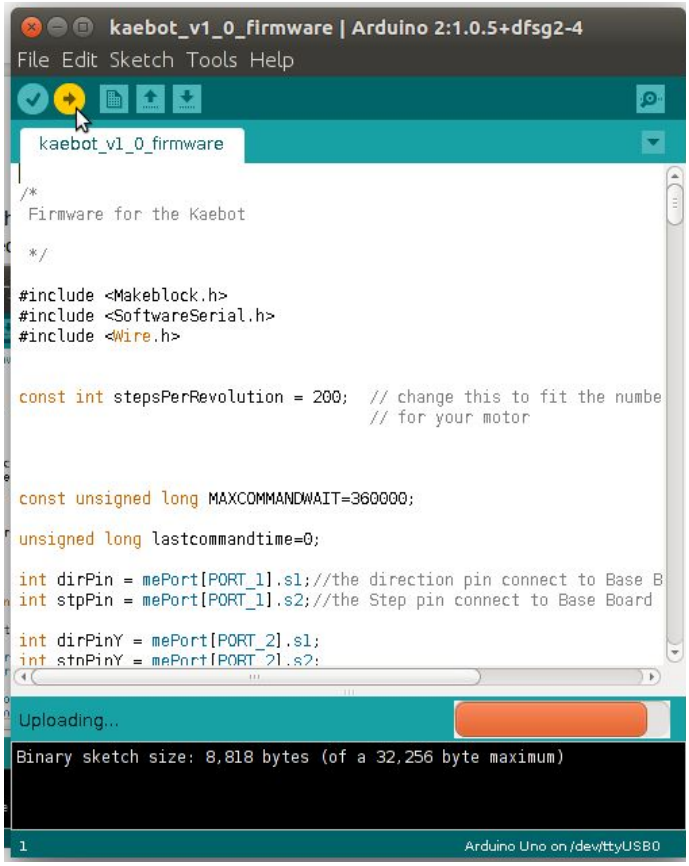
11. From the Tools / Serial port pulldown menu select /dev/ttyUSB0



12. Compile the firmware by clicking the Verify check button. If the makeblock library is installed correctly the firmware should compile and the IDE will report “Done compiling”



13. Upload the firmware to the robot by clicking the Upload button



14. If successful the robot should immediately home the X and Y axes and then return to the origin. **If the robot shakes violently when it reaches one of the extremes, a limit switch has been wired incorrectly. Immediately turn off the power switch on the Makeblock Orion board and check the limit switch connections before powering up again.**