Flashing the AVR development board on non-windows computers

Method 1

The easiest way is to set up a Windows virtual machine. We recommend Windows 10 on VMware as it has worked quite well for past students.
Obtain necessary software for setting up a Windows virtual machine from the following links.

- VMware Workstation (for Linux) or VMware Fusion (for Mac OS): https://taggi.cse.unsw.edu.au/FAQ/VMware_Academic_Program/
- Microsoft Windows: https://taggi.cse.unsw.edu.au/FAQ/Microsoft_Imagine_and_ELMS/

You can pass the AVR serial port into the virtual machine - in VMware a prompt usually pop up when you plug in a new device to the host. Then flash using the steps that we have given for Windows.

Method 2

Please note that this method is for Windows haters who really do not want to use a virtual machine. Nevertheless, here are some tips, but you should be willing to spend some time setting things up.

1. Install *avrdude* using the package manager or any other method
   In Ubuntu: *apt-get install avrdude*
   In MacOS: *brew install avrdude*

2. Locate the serial port (which is the COMport in Windows)
   Eg: */dev/ttyACMxx* ***in Linux*** and */dev/tty.usbmodemxx* in MacOSX where *xx* is a number.
   Note: You can list the files in */dev* before and after plugging the board to observe which device file newly appear.

3. Get the ownership of the port using
   sudo chown username /dev/ttyACMxx
   Note: Ownership of the port is revoked as soon as the board is unplugged. One fix is to call *usermod -a -G dialout <username>* and then restart the computer to get permanent access to the port.

4. Create a shell script *downloader.sh* and add the following to the script.
   For Linux:
   avrdude -C "/etc/avrdude.conf" -c wiring -p m2560 -P $1 -b 115200 -U flash:w:$2:i -D
   For MacOSX:
   avrdude -C "/usr/local/etc/avrdude.conf" -c wiring -p m2560 -P $1 -b 115200 -U flash:w:$2:i -D

Note: *avrdude.conf* locations above might differ on your distribution and make sure you locate it and put the correct path. You can you the following command to find a file.

find / -name avrdude.conf

5. Give executable permission to the script.

   chmod +x downloader.sh

6. Run the script with correct arguments where the first argument is the port that you found in step 2 and the second argument is the generated hex file.

   ./downloader.sh /dev/ttyACMxx text.hex

Note: However, still you should find a way to run the AVR Studio/AVR assembler. Wine might be an option to run the Window's version of AVR studio or the AVR assembler exe. The *avr-gcc* will not work - the assembler syntax is different.