UNIVERSITY OF CALIFORNIA, SANTA CRUZ
BOARD OF STUDIES IN COMPUTER ENGINEERING

CSE013E: INTRODUCTION TO PROGRAMMING IN C

Development tools installation

Introduction

This class relies exclusively on free (as in beer) and cross-platform software. This software also doesn't require much horsepower to run and so you are free, and encouraged, to install this on your own computers. You are welcome to bring these with you for lab section if you would prefer to avoid the lab computers.

Supported Systems

The primary development environment supported by this class is 64-bit Windows, which is every PC available on the UCSC campus. You should not expect to get too much help from the tutors, TA, or instructor if using a different OS as they are likely to be unfamiliar with it. That being said, we will try to troubleshoot any issues you experience.

Software Installation

The order of installation of each component isn't important but I would recommend installing in the order shown within this document.

The IDE: MPLAB X

This the programming IDE (integrated development environment) that you will use to write and compile your code.

1. Download the MPLAB X installation program from Microchip's website.
2. Run the installation program.
3. Click "Next" at the first prompt
4. State that you accept the license agreement and click "Next" again
5. Click "Next" two more times to begin installation
6. Uncheck the XC compilers option and conclude the installation by clicking "Finish"

The compiler: XC32

The compiler. assembler, and linker for the PIC32 processor is a separate program from the development environment.

1. Download the XC32 installation program from [Microchip's website](#).
2. Start the installation program.
3. Click "Next" at the first prompt
4. State that you accept the license agreement and click "Next" again
5. Leave the default "Install Compiler" option selected and click "Next" again
6. Ignore the Installation type screen and click "Next" to skip it
7. Leave the default installation directory and click "Next"
8. Ignore the Compiler Settings screen and click "Next" to skip it
9. Begin the installation by clicking "Next"
10. Finish the installation by clicking "Next" and then "Finish"

Serial terminal: Various

Interacting with the Uno32 is done over a serial connection (which is converted to USB and done through the same USB cable that powers the Uno32). Coolterm is recommended for Windows and Mac OS X, while Cutecom or screen is recommended for Linux.

Windows
1. Download [CoolTerm](#).
2. Run the program
3. Uncheck the "Always ask before opening this file" option
4. Click "Run" to start the program.
5. Check the "Don't show later" option
6. Click "Close"
7. If a Windows Firewall alert pops up, click Cancel

Linux
1. Install cutecom from your distribution's repositories
   - For Debian/Ubuntu derivatives: `sudo apt-get install cutecom`
   - For Red Hat/Fedora derivatives: `sudo yum install cutecom`
2. Launch from the applications menu or the command line by opening a terminal and executing `cutecom`.
3. To install screen, replace "cutecom" with "screen" in the above instructions.

Mac OS X
1. Download [CoolTerm](#).
2. Open the .zip file and drag CoolTerm.app to your /Applications folder.