DT228-2 Micros Lab 2. Blinky

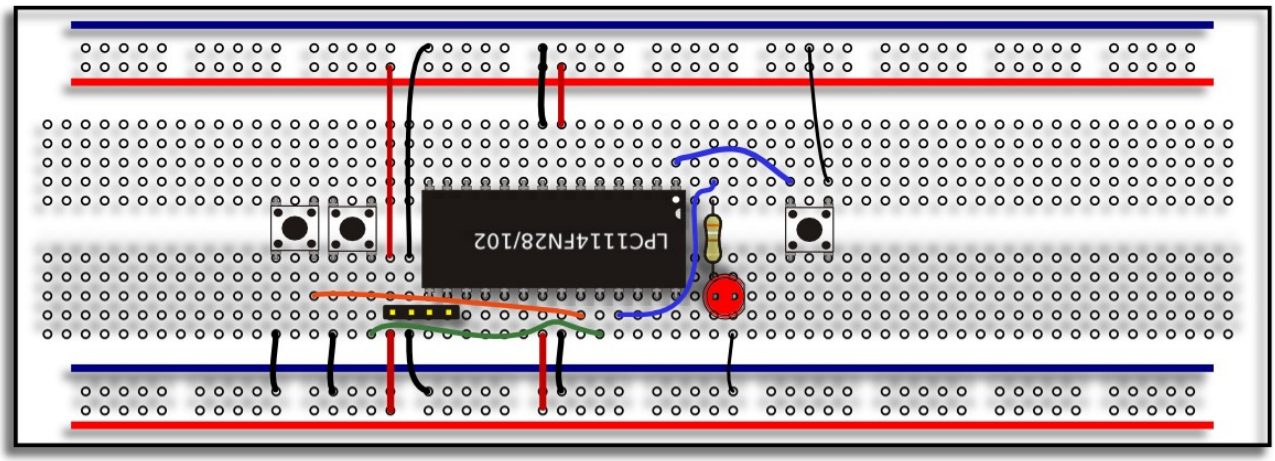
Key topics: prototyping on breadboards, using the toolchain, simple input/output

Introduction

In this lab you will assemble a simple ARM based development kit and program it using a pre-configured toolchain. The preferred text editor here is Notepad++.

Part 1: Assembly

Assemble the breadboard as shown below, taking care to place components as shown. You should also observe the colour coding used. Use solid core wire, not stranded wire.



Part 2. The toolchain

The compiler, linker and program loader for this chip are located on the C: drive of the laboratory PC's. A sample program (blinky) is also there. You should begin by copying the blinky folder to your home drive (Z) as follows:
1) Open Windows Explorer
2) Go to **c:\Program Files\arm_sdk\lpc1114**
3) Right click on the folder "**blinky**" and click copy
4) Using Windows Explorer navigate to your home drive (Z: probably) and paste the blinky folder there.

Part 3. Programming the chip.

This section can be a little tricky. So watch what happens on screen carefully.
1) Plug the USB-serial converter into the PC and note which COM port it emulates (e.g. COM3 or COM4 etc.)
2) Plug the other end of the USB converter into the header on the breadboard – ask for help with this.
3) Edit the file build.bat in the blinky directory such that the COM port mentioned matches the one in your setup.
4) Save build.bat and then double click on it.
5) Watch what happens on screen, carefully following any instructions given. Ask for help if there are errors. Hopefully you will see LED blink at the end of the process. Modify the code so that it blinks the LED at a different frequency and repeat.