

ENEE159V/H
Spring 2009
Warmup Assignment

Homework 0, Part I

Introduction to the XMT Environment

Getting Started

If you are new to Linux, or if you would like to review some of the basics, read the 'Simple Unix Tutorial' by Scott Watson
See <http://terpconnect.umd.edu/~jspeiser/enee159vh/simpleunixtutorial.pdf>

Install the XMT environment:
See <http://www.umiacs.umd.edu/users/vishkin/XMT/sw-release.html>.
(If you are using Mac OS X or Windows you will need to use VirtualBox)

Visit the course page to view the XMT-C quick reference guide:
<http://terpconnect.umd.edu/~jspeiser/enee159vh>

First Steps

- Create a directory named 'warmup'
- Using nano (or your favorite editor) create a new file named **swap.s.c**, within the warmup directory.

Tip:

When you see the caret ^ symbol in nano, it means use the control button. For example, to quit nano you must enter ^X, meaning you hold the control button and press X.

Programming in the XMT Environment

All programs should begin with the directive: `#include <xmtc.h>`

In `swap.s.c` implement a **serial** program with the following functionality: Define two integer arrays A and B of length 10, swap the arrays by placing the first item of array A as the last in array B and the last item in B as the first in A and so on.

A	0	1	2	3	4	5	6	7	8	9
B	10	11	12	13	14	15	16	17	18	19

Your program should implement the steps detailed above, such that A and B contain:

A	19	18	17	16	15	14	13	12	11	10
B	9	8	7	6	5	4	3	2	1	0

In swap.p.c implement a **parallel** program with the same functionality described above

Tip:

*Spawn takes two integers as arguments **inclusively***

Compile and run your code, for example:

```
$ xmtcc swap.s.c -o warmup
```

Run your code on the simulator, for example:

```
$ xmtsim warmup.sim
```

For information on command usage enter xmtsim -help, or xmtcc -help.

Verify that your code works properly

You may use printf statements to output the contents of the arrays, or alternatively you may use a debugger such as gdb to walk through your code, and print the contents of the array at a certain point in the program. If you are interested in learning how to use gdb with XMTC code, I have posted a short introduction on my website: <http://terpconnect.umd.edu/~jspeiser/gdbtutorial.html>

A Note on Project Submission

Details for project submission have been posted on the course page: <http://terpconnect.umd.edu/~jspeiser/enee159vh/>