

# Concurrent Systems II

## Practical 1

January 28, 2014

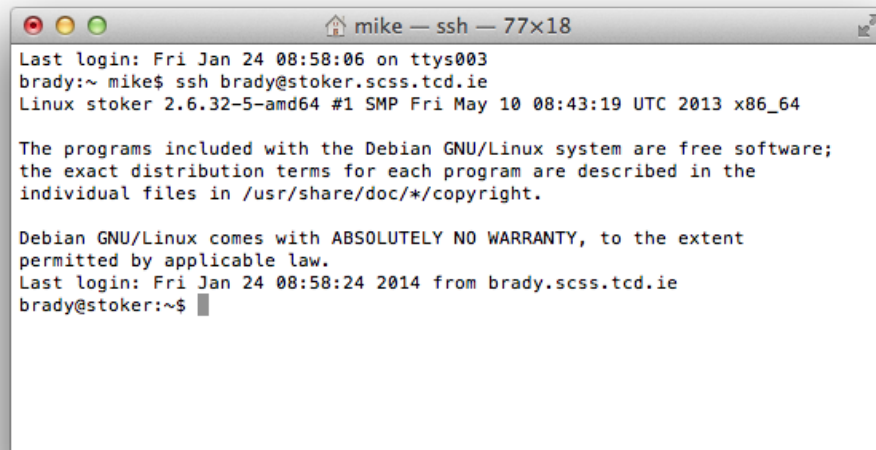
This practical is worth 1% of your year-end result. Have it ready for inspection at your practical on this day week—i.e. Tuesday February 4.

- Write a complete threaded program in C (or non-OO C++) on a Linux machine—e.g. `stoker.scss.tcd.ie`—to compute the value  $\pi$ . You'll need to find some way to do this with, for instance, a series or an integral so that you can use an embarrassingly parallel approach.
- Find out how to measure *elapsed* time in the Linux environment and do some measurements. From the measurements, can you deduce how many processors/cores are in the machine?

Today, you should concentrate on the mechanical details of connecting to stoker and compiling a program on it. You can find the text of the HelloWorld program at:

<http://www.scss.tcd.ie/CourseModules/CS3015/Assets/Practicals/p1/helloworldsample.c>.

Here is what connecting to `stoker` might look like, the first time you connect over an `ssh` link:



```
mike — ssh — 77x18
Last login: Fri Jan 24 08:58:06 on ttys003
brady:~ mike$ ssh brady@stoker.scss.tcd.ie
Linux stoker 2.6.32-5-amd64 #1 SMP Fri May 10 08:43:19 UTC 2013 x86_64

The programs included with the Debian GNU/Linux system are free software;
the exact distribution terms for each program are described in the
individual files in /usr/share/doc/*/copyright.

Debian GNU/Linux comes with ABSOLUTELY NO WARRANTY, to the extent
permitted by applicable law.
Last login: Fri Jan 24 08:58:24 2014 from brady.scss.tcd.ie
brady@stoker:~$
```

(<http://www.scss.tcd.ie/CourseModules/CS3015/Assets/Practicals/p1/practical.pdf>)