

LOGGING IN AND LINUX

You should all have a username and password. Please log into your computers. Let us know if there are any problems.

The computers in this mathematics department computer lab run the **linux operating system** (as do the computers in the physics and engineering computer labs at UCD). Unlike the windows operating system on most (non-apple) personal computers, linux is free and open source. (You can actually look at and even modify the code which comprises linux.) Most servers run linux, as do 90% of the world's 500 fastest supercomputers. We will need to learn linux and some of the software which has written to accompany it.

There are several variations of linux. Some of the differences are the extent to which a graphical interface is used. Here we will discuss how to use linux with various 'command line' instructions. Many of these tasks can also be accomplished by clicking on appropriate icons.

Once you are logged in, open up a terminal (window) by clicking on **applications**, then **accessories**, then **terminal** in the upper left of your screen. As we progress, you may find it convenient to open up several terminals so you can be doing several things at once. In the terminal window, type the command

```
ls
```

ls is an abbreviation for **list**. This linux command lists all the files and subdirectories ('folders') in your main directory. Now type

```
mkdir weekone
```

mkdir is an abbreviation for **make directory**. This linux command creates a new directory. You will find it useful to organize your work into different directories. If you type **ls** again you should see this newly created weekone directory. Type

```
cd weekone
```

cd (abbreviates **change directory**) will drop you down into weekone. If you type **ls** you will see there is nothing in this directory (yet!). The linux command **cd ..** (notice the two dots!) will take you back up to your main directory. Try typing

```
pwd
```

pwd (abbreviation of **print working directory**) is a useful command if you ever forget where you are. It tells you which directory you are in. As these examples illustrate, linux often used simple short character strings to tell the computer what to do. We will learn more as we move forward.