

## Basic unix commands

ls - list directory contents

cd - changes current directory

rm - remove directory entries

cp - copy files

mv - move files

mkdir - make directories

rmdir - remove directories

man -- the "online" manual.

vi is a basic editor running under unix --- see the guide at "Resources".

But you can always prepare text files using eg wordpad or notepad. Note that there are some differences in eg how a carriage return is implemented in different editors, and this sometimes causes strange effects especially when electronic marking is used.

You **\*must\*** test your assignments on a unix machine before you submit. Information about using scripts will be provided nearer the time.

## Compiling your program

Use the command

```
g++ myProg.cpp
```

If your program needs more than one source file to compile, make sure that all the required files (eg header and class files) are in your project's directory before you compile.

After compilation, if all is well (!) you should find an executable file called a.out. To run the program, use

```
./a.out
```

(Note, you can always rename the executable to something more appropriate.)

## Getting the timing statistics for your programs

Unix provides a command which produces various performance statistics for your programs. Use

```
/usr/bin/time ./a.out
```

You will get an output which looks like

```
1.03 real    0.86 user    0.00 sys
```

This will be printed after the output produced by your program (if any).

The first number (the "real" time) gives an approximation of the time your program took to execute. Use this figure when you produce your graphs for your portfolios.

For more information use

man time

### Drawing graphs in excel

You will be asked to produce graphs to display your experimental results. You may draw your results on graph paper by hand if you wish, but you can also use a spreadsheet, such as Excel.

To use Excel, use a column for the "x" values, and a column for the corresponding "y" values. Highlight the two columns and select "chart". The best type of chart is a "scatter plot".