

Computer Tutorials: Introduction

The purpose of the first tutorial is to introduce you to the MAGMA computer algebra system. For the first few weeks we will use MAGMA to study vectors and inner products. Later on we will use it to study group theory. The MAGMA language was developed by Professor John Cannon and the Computer Algebra Group at the University of Sydney.

Getting Started

To do the computer tutorials you must log in to the computer called “rome”. If you are using the terminals in Rooms 610/611 then you simply select rome from the list of available machines to obtain the login screen. If you are using the PC laboratories 729/730 then you must first connect to rome by entering rome as your username and rome as your password at the PC login screen, and then you will get rome’s login screen.

If you were enrolled in Math2002 (Matrix Applications) in 1st semester then your rome login name and password for Math2008 will be exactly the same as for Math2002. So your login name has the form ‘i2ssssss’ where ‘i’ is your first initial and the ‘s’s are the first 6 characters of your surname, or your entire surname if it is less than 6 characters long. **Please make sure that you know what your password was in first semester! If you have forgotten it then you will have to ask our system administrator to give you a new one, and system administrators much prefer not to have to do this kind of thing.**

If you did not obtain a computer account in 1st semester (if you did not do Math2002 this year) then the first time you log in you should use your SID as password. You will immediately get a message saying that your password has expired, and you will be asked to enter a new password. Please be prepared for this, and make sure that you do not forget the password that you choose.

Once you have logged in, a window labelled “Session Manager” appears, and from its “Applications” menu you can select which application to run. Select `magma`. In a short while MAGMA will start and you will be presented with its ‘prompt’ (`>`). You can now type MAGMA commands; for example, if you type

```
1 + 1;
```

then MAGMA will respond 2. (Every MAGMA command must be terminated with a semicolon; if you enter a command and nothing happens then it is often because MAGMA is waiting for you to type a semicolon. You can then just type the semicolon on the next line.) It is a good idea to keep a log file recording your MAGMA session; to do this, type

```
SetLogFile("whatever");
```

at the MAGMA prompt. (The inverted commas are needed; replace *whatever* by whatever name you want to give your file!) After this you are ready to do the tutorial questions. The questions themselves give you instructions about what to type. To finish a MAGMA session type

```
quit;
```

making sure to include the semicolon.

To edit log files or input files select `Nedit` from the Applications Menu of the Session Manager and use the menus.