MSc Computing Science
Laboratory Information Pack

Introduction

Welcome to the **MSc Computing Science** course. This document describes the arrangements for usage of the laboratory machines which you will be using this year.

Programming is considered such a core skill in computing that you will be spending a lot of time in the computer lab doing programming of one sort or another, whether for a lab-based course, your project, or both.

The lab facilities are intended to support your lecture courses and to give you practical experience of programming. We will mainly use a traditional imperative language, namely C++, and will continue with Prolog, a logic-based language. You will also be exposed to assembly language, and operating systems code within the Minix operating system.

The Department's computer systems are maintained and developed by the Computing Support Group (CSG). They also attend to any problems with the computers and networks that may arise. For immediate problems, such as a terminal not responding, you should see the operators who are on duty during normal office hours in room 225; alternatively email `help@doc.ic.ac.uk`, or use the online request system found on the CSG webpage.

Laboratory Sessions

If you are doing a lab-based course, most of the lab exercises will be done on the PCs in the labs running Linux. **You must ensure that any programs that you submit work correctly on the Linux versions of the programming languages installed in the computing labs**. Full information on the departmental Linux installation can be found on the CSG webpage (`http://www.doc.ic.ac.uk/csg/`).

The first two weeks of term are spent on an intensive course of lectures and *unassessed* lab exercises in the C++. After this, other taught lecture courses begin, and assessed exercises involving the languages mentioned above will be issued regularly. A timetable of the lab exercises is given on the Lab webpage and on the CATE system (see below).

A one-hour slot per week is timetabled as a laboratory workshop session. During this session, there will be an interactive lecture regarding your on-going coursework or a feedback

session regarding your marked courseworks. Note that workshops may not be held each week. Instead, you will be notified via email whether a workshop is going to be held or not.

In addition to workshops, a certain number of hours in the week are timetabled as laboratory sessions, in slots of 2 or 3 hours each. During these times, you have priority use of the equipment in the designated room(s) and lab demonstrators are in attendance to help you out with queries and problems regarding the on-going lab exercises.

You are asked to respect the priority access to equipment that other groups of students have during their lab sessions, in order to avoid conflicts.

Submissions and Assessment

Submissions, lab instructions and timetabling are all found and managed on the Continuous Assessment Tracking Engine (CATE), found at `https://cate.doc.ic.ac.uk/`. Here you can download the individual exercise instructions, see the dates when assessed work is due, and submit your solutions.

Once the exercise has been marked, a print out of your submission will be returned to you via the racks at the back of the lab. Appropriate comments and remarks will be written on the print out and a letter will indicate the grading according to the percentage of marks given to your work; marks under 50% indicate failure.

It is important that you organise your time and aim to submit something for every assessed exercise required: non-submissions carry zero marks, which obviously lowers your final mark. Note that the latter is not a simple average but a more complex formula that takes into account the length and complexity of each exercise.

A note on plagiarism: It is very good to discuss the program you are going to write with friends during the program design stage. In fact Software Engineering is a collective enterprise so it is quite reasonable that you should discuss problems with each other. However, plagiarism (i.e. representing someone else's work as your own) is a very serious issue. Not only must you not copy the work of others but you must not allow others to copy your work. We are obliged to inform the college authorities in the event that we discover that work is copied.

Backups

The work you store on the network file server in the Department of Computing Labs will be backed up by CSG. However, it is very advisable to keep your own backups of important work because CSG may only have a complete backup of your work from about 2 days previously (at best, from the previous night). Losing a whole day's work if you delete something by accident can still be very frustrating, so do keep backups. Having lost your work is no excuse for not submitting!

Email and Internet

The Department communicates with students primarily via email and through its webpages. Students are expected to check their departmental email regularly for updates from lecturers and administrators. A web-based interface to your email account is available and can be found at `https://exchange.imperial.ac.uk/`. It is also useful to check on the various Department webpages from time to time. Below are some useful email addresses and webpages.

Important email addresses

- `f.sadri@imperial.ac.uk`
  Dr Fariba Sadri, Course Director.

- `w.knottenbelt@imperial.ac.uk`
  Dr William Knottenbelt, Assistant Course Director.

- `rnr07@imperial.ac.uk`
  Dr Reuben Rowe, Teaching Fellow.

- `doc-all-mcs@imperial.ac.uk`
  All students registered on your course. Please use with extreme care; "Help, I've lost my keys!" messages and so forth are strongly discouraged.

Important web pages

- `http://www3.imperial.ac.uk/computing/`
  The Department of Computing Home Page.

- `http://www3.imperial.ac.uk/computing/internal/students`
  A student-centred portal, providing you with links to the most useful resources on the Department webpage.

- `https://cate.doc.ic.ac.uk/`
  The Continuous Assessment Tracking Engine. All your coursework marks are published here.

- `http://www3.imperial.ac.uk/computing/internal/students/lab/mcslabs`
  Your course lab page. Information related to lab work: regulations, timetables, documentation, etc. This will be updated regularly as the term progresses, so check back here periodically.

- `http://www.doc.ic.ac.uk/csg/`
  The Computing Support Group. Information about operating systems, remote access, computer software, and the resources available in the department.

- `http://www.doc.ic.ac.uk/csg/newuser/`
  Regulations covering computer use in the department.

Lab Computer Systems

The vast majority of the lab computers run either the Linux operating system, or dual-boot Linux and Windows (see the CSG website for exact details). The first time you log on to the lab network, you must set up a private password to protect your account. You will need to set your password under *both* operating systems. Try to choose a password that is not a word (in any language) and does not relate to your login or name. *You must use the same password under both Windows and Linux.*

Linux

If you are unfamiliar with Linux, there is a short guide available on the course lab page, and a rather more detailed one at `http://www.doc.ic.ac.uk/~wjk/UnixIntro`. If you haven't used it before, it's a good idea to familiarise yourself with Linux early on in term before work starts piling up. A decent knowledge of basic command-line usage can save you a great deal of time later on. To begin with, log in and change your password.

1. At the login window, enter your login name and initial password as supplied on the sheet you received from CSG in your Welcome Pack. Remember that the password is case sensitive!

2. Use the command "`passwd`" to change the password we have given you to one of your choice. Don't make it hard to remember, but make sure it's hard to guess! You should see something like this:

   ```
   sync01% passwd
   Changing password for xyz09
   Enter old password:
   New Kerberos password:
   Retype new Kerberos password:
   passwd: all authentication tokens updated successfully
   sync01%
   ```

   Your new password may not become effective for a few minutes.

3. Now practice logging out and logging in. Each time you finish a session you will want to log out. There should be a "logout" option on the starting menu if you have the usual DoC lab setup. Always ensure that you have logged out properly before leaving the labs.

4. Now log in again (remember to use the correct password).

Windows

1. From the Windows startup screen, press `Ctrl, Alt and Delete` simultaneously.

2. At the login window, enter your login name and initial password as supplied on the sheet you received from CSG in your Welcome Pack. Remember that the password is case sensitive! Once you have finished, click the OK button, or press Enter.

3. At this stage, you may be prompted for a new Windows password. If so, follow the on-screen instructions to select a new password. If not, press `Ctrl, Alt and Delete` simultaneously. A dialog box should appear.

4. Click on "Change Password".

5. Follow the on-screen instructions to set your new password.

Finally . . .

We wish you all the best for the coming year - we hope you find it enjoyable, and look forward to seeing you in the labs!