
Computer Programming: Skills & Concepts (INF-1-CP1)

The Informatics Computing Environment (DICE)

23th September, 2010



Administrative business

If you don't have your password yet, you can collect it **either**

- From the ITO, AT level 4, during office hours, **or**
- At the **special Lab session** from **1pm-3pm** on Monday, 27th September, on Level 5 of Appleton Tower.

Tutorials - if you are worrying, don't. Nothing has been arranged yet

Practical 0

Out: Today (Thursday 23rd), by 4pm, *on the course webpage*

`http://www.inf.ed.ac.uk/teaching/courses/cp1/`

Due: Monday 4th October, **2pm** *via the submit command.*

- Please try to take a look online before the lab on Monday 23rd Sept.
- I will bring printed copies along to the lab on Monday 23rd Sept

next Monday (27th September)

Lab session, **13:00–15:00** in North and West Labs, Level 5, Appleton Tower.

Please come for **both** 13–14 **and** 14–15 if possible.

Make sure you've got your library card (Must swipe to get in the lab)

Today is essentially an “on-line” investigation the file system, editing, browsing, etc. These slides present just a terse record of proceedings.

Files, directories

- Files are sequences of symbols. They are the units into which data is gathered and handled. The files will have different formats according to their function (recording text, pictures, music, whatever).
- If we didn't impose structure on the files we own, we'd soon be overwhelmed and lose track! Using a special kind of file called a *directory*, we can collect together a set of related files.

Files, directories (continued)

- We can repeat this trick: directories may contain other directories. E.g., *on my own account*
 - ~/cp
 - ~/cp/slides
 - ~/cp/slides/slides3x.tex ...
- In this way we may arrange our files into a *tree structure*. (Trees in Computer Science grow downwards for some reason! So we go *down* the tree to the “leaves”, which are files that are not themselves directories.)
- We can manage our file structure using the commands `mkdir`, `rmdir`, `ls`, `cd`, `rm`.

Creating and editing files

- Some files contain raw text, or something close. These files may be created and modified using an editor (in this case *Emacs*).
- It is important to bear in mind the basic model. When you use the editor, you do not manipulate files directly, but rather *buffers* that are internal to the editor.
- The cycle is to read a file into a buffer, edit the contents of the buffer, and save the contents of the buffer to a file (often the same one).
- If you mess up, you can always kill the buffer. The original file will be unchanged.

Creating and editing files (continued)

- You can have many buffers open at the same time.
- There are many editing commands, but you can comfortably get by knowing twenty or so.
- There is an on-line tutorial in Emacs if you want to learn more.

Practical 0

- Become familiar with logging-in, logging-out, and using the resources available in our DICE system;
- Practice using the basic UNIX commands that you will need most throughout the semester:
ls (list files), cd (change directory), mkdir (make directory) ...;
- Get experience using the emacs facility for creating and editing files;
- Write a more general version of the “Hello World” program (unique for each student ;-)), learn how to *compile* it with gcc, and then run it.

Browsing the Web (WWW)

- We'll use Mozilla Firefox. Other browsers work along similar lines.
- The basic way of navigating the Web is via *links*.
- We can call all sorts of material to our desktop from all over the world: text, pictures, movies, sound, even programs (applets).
- Given the unstructured nature of the Web and its vast size, it's amazing that we can find what we're looking for quickly and easily. For this we need a search engine (e.g., *Google*).