This paper follows on from COMP160. Its major aims are:

- to reinforce the abstract data type concept introduced in COMP160, and to explain some of the most useful abstract data types
- to explain some important data structures with which to implement these abstract data types
- to introduce design and analysis techniques for algorithms
- to give practice in writing medium scale Java programs (testing, debugging, run-time and storage analysis from both a theoretical and a practical viewpoint)
- to encourage good practice in all aspects of programming

Text Book and Web Page

The recommended text book for this paper is *Java Foundations – Introduction to program design & data structures* by Lewis, DePasquale and Chase (any edition will be fine). This is the same text book that was used in COMP160. It would be a good idea to review the material covered in COMP160 if you are little rusty. In particular, you should be familiar with the first five chapters as well as chapter number seven.

When you look over each lab beforehand, you will find that the text book contains plenty of valuable material which can help you during the labs.

You might also find it useful to have a look at the Java Tutorial which can be found online at `http://download.oracle.com/javase/tutorial/`. The section 'Learning the Java Language' is the one that you should be most familiar with.

The course web page can be found at `http://cs.otago.ac.nz/cosc241/` and contains important information such as assignment details, internal assessment marks and lecture schedule.

Study Expectations and Assessment

There are two lectures per week at 11.00am on Monday and 11.00am on Thursday throughout the semester.

You will be at a serious disadvantage if you do not attend lectures — attend them conscientiously! We recommend that you read through your lecture notes before and after attending the lecture.

There are two 2-hour laboratory sessions per week, one on Tuesday and one on Friday. All of the laboratory sessions take place in Labs E and F on the ground floor of the Owheo building. The work you do in labs is assessed and counts for a significant proportion of your final mark. The scheduled sessions have lab demonstrators available to help you understand and work through the lab material. You have 24/7 swipe card access to the lab and can complete and submit your work at any time during the week that it occurs, up until 10pm on Sunday night.

Lab work is marked on an "all or nothing" basis. You get the mark if the lab material is completed to a "satisfactory standard". All of the programs you write should work correctly, have a tidy layout, and be appropriately commented with Javadoc comments. You can check that your Java files have the expected layout and Javadoc comments etc by running the command `checkstyle Filename.java` in a terminal. Run `checkstyle -h` to see a list of the checks that are performed.

The checkstyle command doesn't check that your comments actually make sense. From time to time we will inspect the comments of work that has been submitted, and if we find missing, nonsense, or inaccurate comments then marks may be lost.

When you have completed your lab material you can check that it is working as expected by running the command `241-check` in a terminal. If all is well then you can submit your work by running the command `241-submit`.

Please make sure that you always keep an electronic copy of all lab work that you do.

Lab work can only be submitted between Monday morning and Sunday night throughout the week that it is scheduled. Any lab which is not completed before the deadline will not be marked. If there is legitimate need for an extension (especially for medical and family emergencies) you can apply for one, but be prepared to supply written proof.

You are allowed to attend other lab streams, provided there is room, but are only guaranteed a place during your own lab stream. The morning streams generally have the most free space. This is especially true during the practical tests which occur twice during the semester. There are also machines running Linux in Lab B which can be used when that lab is not busy.

We strongly recommend that you attempt to complete as much of the lab work as you can prior to the scheduled lab sessions.

During the course we shall require that you do an assignment. Please note that the assignment deadline is a firm one. There will be a penalty for late submissions:– you will lose 10% of the mark you obtained on the assignment for every day that your assignment is late, unless you have been granted an extension.

There is a final examination that counts 60% to the total assessment.

We encourage you to get into the habit of working to a schedule and making adequate preparation for classes during the semester. This paper builds concept upon concept so it is important that you work at a regular rate and not let things "slide".

Email and Printing

Email will often be sent to the whole class and you are expected to read it. It is very important that you check your University email regularly.

For information about using printers in the department see:

http://www.cs.otago.ac.nz/student/resreg/printers.php

Staff

Michael Albert (Lecturer, Paper Coordinator), Room G.31, Owheo Building, Ext 8586, malbert@cs.otago.ac.nz

Lech Szymanski (Lecturer), Room 2.49, Owheo Building, Ext 5691, lechszym@cs.otago.ac.nz

Iain Hewson (Lab Coordinator), Room G37A, Owheo Building, Ext 8584, ihewson@cs.otago.ac.nz

System Administrators / Computer Technicians:

General enquiries about programs on computers and technical issues may be made to: cshelp@cs.otago.ac.nz

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Acceptable Working Practice

We have defined the following acceptable practices, and they will be applied consistently across 200-level papers in the Department of Computer Science. In addition to agreeing with these guidelines, use of the user account you have been given by the department implies acceptance of, and agreement to abide by, departmental regulations, as well as official Otago University computer user policies. You may read more by accessing the information (and following the links) on our information pages:

http://www.cs.otago.ac.nz/cosc241/regs.html.

A happy atmosphere prevails in the department because we all trust one another. As a 200-level student, you will have 24 hour access to the computer labs on the ground floor of the Owheo building, as well as various common room and kitchen facilities. With this access goes trust. We trust you:

- to clean up any mess that you create,
- to respect others who work in the buildings and their need for quiet, safe surroundings,
- to read any textbooks, manuals or magazines provided in the labs or common rooms without damaging or removing them,
- not to eat food in any of our computer labs,
- to treat the departmental property as your own and take good care of it,
- to close any window left open at nights, and turn off any lights before leaving,
- to abide by the departmental guidelines for all aspects of use of our computers.

The honour system is simple. When in doubt, let common sense and honesty be your guide. This applies to your course work as well. The basic idea is that you should never submit for assessment any work except your own. However, communication with your fellow students and tutors is an important part of learning and the discussion of assigned work can be very valuable. So, where does discussion (acceptable) stop and plagiarism (unacceptable) start? We need to spend a bit of time over this, not because we start from a position of mutual distrust, but because it is not always clear to the parties concerned what is acceptable and what is not. From our point of view we want you to benefit from being among your fellow students, but we also have to assess what you have learnt.

We shall make a clear distinction between the lab work that you do in the regular scheduled sessions and any assignments. *For any assignment we want you to work completely independently (except when a group assignment has been specified).* Regard such an assignment as a take-home exam — it is essential that you do it on your own.

However, for lab work we encourage discussion. You will often find it helpful to sit down with your colleagues and brainstorm some ideas. Of course, that doesn't mean a license to copy code. You have enough experience now to understand that, for *lab* work:

- It is acceptable (and even laudable) to sit down, before coding, and discuss various approaches to the relevant problem with others. But it is NOT acceptable to ride on the back of any fellow student using their proposed solution without making the effort to contribute.
- It is acceptable, when producing code and having trouble with it, to consult a tutor or friend who may point out obvious syntax errors or comment on your

general approach. But it is NOT acceptable to ask anyone to write your code for you, nor to copy code that someone else has written.

- It is acceptable to test code for another student, or ask them to write test cases for your own code. But it is NOT acceptable to renounce responsibility for your code by entirely delegating testing to another student.

In contrast to your lab work, you should only discuss any assignments with members of the teaching staff.

The University takes a very serious view of dishonest practices. The Department routinely runs software to detect similarities between programs submitted for assignments. This software is very sophisticated and is capable of detecting code copying despite offenders going to great lengths to conceal it. The consequences, if evidence of dishonesty is found, are firstly an interview with a member of staff at which an explanation is sought. We would be disappointed if any such interviews prove necessary. Should the interview leave the Department convinced that there is evidence of dishonest practice, regulations prescribe that the matter be referred to the Pro-Vice Chancellor of the relevant Division, after which it is out of our hands — which is bad news of the thirteenth magnitude for those affected. Far, far better not to be taking the risk.

Dishonest Practice Information

The official Otago University's policy regarding plagiarism is:

"Students should make sure that all submitted work is their own. Plagiarism is a form of dishonest practice. Plagiarism is defined as copying or paraphrasing another's work and presenting it as one's own. In practice this means plagiarism includes any attempt in any piece of submitted work (e.g. an assignment or test) to present as one's own work the work of another (whether of another student or a published authority). Any student found responsible for plagiarism in any piece of work submitted for assessment shall be subject to the University's dishonest practice regulations which may result in various penalties, including forfeiture of marks for the piece of work submitted, a zero grade for the paper, or in extreme cases exclusion from the University."

It is your responsibility to be aware of and use acceptable academic practices when completing your assessments. More detailed information about the University's Academic Integrity Policy is available from:

`http://www.otago.ac.nz/study/academicintegrity`

If you have any questions, ask the lecturer.

Disability Support

The Computer Science Department encourages students to seek support if they find they are having difficulty with their studies due to disability, temporary or permanent impairment, injury, chronic illness or Deafness. Contact Either:

Diane Inder
Computer Science Department Disabilities Contact Person
Room G33, Owheo Building
Telephone: 479 8397

Or ***Disability Information and Support***
Telephone: 479 8235
Email: disabilities@otago.ac.nz
Web site: http://www.otago.ac.nz/disabilities/