UNIVERSITY OF CAMBRIDGE COMPUTER LABORATORY

First-Year Computer Science

Practical Class — Week 1

The first-year practical work covers three topics:

ML under Windows	Java under Unix	Hardware
(Paper 1 and Paper 2)	(Paper 1 and Paper 2)	(Paper 2 only)

In each case there are lectures, practical classes and assessed exercises. There are ten assessed exercises associated with Paper 1 of which five relate to ML and five to Java. There ten further assessed exercises associated with Paper 2 of which seven relate to Hardware; there is also an additional ML exercise and two additional Java exercises.

This document gives details of the timetable of the practical classes and the assessment procedure.

Michaelmas Term — ML Practical Work — All Candidates

Half the class will be deemed *odds* and half will be deemed *evens* and lists will be issued next week showing who is in which group.

Practical classes and assessments are always on Thursdays. In the table, the Michaelmas Term Thursdays are numbered 1 to 8. The *odds* have ML assessments on Thursdays 1, 2, 3, 5 and 7, and the *evens* have ML assessments on Thursdays 1, 2, 4, 6 and 8. These assessments account for the five ML exercises associated with Paper 1.

	Michaelmas							
Week	1	2	3	4	5	6	7	8
Odds	ML	ML	ML		ML		ML	
Evens	ML	ML		ML		ML		ML

At the end of the Michaelmas Term, a sixth ML exercise will be set. This additional ML exercise is associated with Paper 2 but everyone is encouraged to try it.

Michaelmas Term — Hardware Practical Work — Paper 2 Candidates only

The majority of the assessed exercises associated with Paper 2 relate to Hardware. In the Michaelmas Term, Computer Science candidates who are *odds* have Hardware classes and assessments in weeks 4, 6 and 8 and those who are *evens* have Hardware classes and assessments in weeks 3, 5, and 7. Accordingly, the Hardware classes fill the gaps in the table above.

You will be allocated to a morning Hardware class or to an afternoon Hardware class and a schedule will be issued next week showing the allocations.

Lent Term — Java Practical Work — All Candidates

In the Lent Term, everyone has a two-hour Java practical class *every week.* You will be allocated to a class that runs from 2 pm to 4 pm or one that runs from 4 pm to 6 pm and a schedule will be issued next week showing the allocations. Note that there are eight Java classes altogether.

A Java exercise will be set at each of the first seven classes and each exercise will be assessed the week after it is set. The first five assessments account for the Java exercises associated with Paper 1 and the last two are associated with Paper 2 but, again, everyone is encouraged to try them.

At the very first Java practical class, the sixth ML exercise will be assessed.

Lent Term — Hardware Practical Work — Paper 2 Candidates only

In the Lent Term, Hardware classes and assessments will continue fortnightly and follow the pattern set in the Michaelmas Term with the *odds* coming in even weeks and the *evens* coming in odd weeks!

Those who have morning Hardware classes will be allocated to the 2 pm to 4 pm Java class and those who have afternoon Hardware classes will finish in time for the Java class that runs from 4 pm to 6 pm.

The three Hardware assessments in the Michaelmas Term and the four in the Lent Term together account for the seven Hardware exercises associated with Paper 2.

Full details of the arrangements for the Hardware classes will be explained in the Digital Electronics lectures.

Announcements by the Head of Department — Portfolios

There are, appended, copies of the Announcements by the Head of Department. These explain that the exercises not only have to be completed and assessed but that portfolios of assessed work have to be submitted by a specified deadline.

Each assessed exercise counts as two raw marks towards the Tripos Examination at the end of the year. [These marks are subject to a scaling procedure which is outside the scope of this document.]

For each day of late portfolio submission two raw marks will be deducted. Fractions of days late are rounded upwards.

The first two programming exercises are undertaken at practical classes in the William Gates Building. These first two classes are nominally concerned with ML but in practice they are largely concerned with instruction in the use of the computers located in the Intel Laboratory.

Accordingly, the first two assessed ML exercises are not very challenging. Guided Practical Sessions which serve as tutorials will be issued for each.

From the third assessment onwards, the exercises will become increasingly challenging!

The ML assessed exercises are presented in a separate document. Do not be alarmed that the later exercises seem difficult; remember that the relevant material will be covered in the Foundations of Computer Science course.

Schedule for ML Assessments 1 and 2

The following is an outline of the timetable for the first two Thursday afternoons:

Week 1	*Week 2*
2:00 DR F.H. KING Introduction to Practical ML.	2:00 DR F.H. KING Practical ML continued.
2:35 Break	2:55 Break
2:40 MR R.J. STIBBS ML under Windows.	3:00 MR R.J. STIBBS Further use of Windows.

The talks take place in Lecture Theatre 1 in the William Gates Building and are followed by a Guided Practical Session which includes completing an assessed exercise.

Schedule for ML Assessments 3, 4 and 5

After the first two weeks, the Michaelmas Term Thursday afternoon classes follow a different pattern. Everyone is expected to complete the work which is to be assessed on a given Thursday by 5 p.m. on the Wednesday before the Thursday class. On the Thursday afternoon, a demonstrator will spend $7\frac{1}{2}$ minutes discussing the work.

Further details will be given at the Week 2 class.

Getting a Tick

The Guided Practical Session for Week 1 is in a separate document. When this is worked through, it will be clear that part of the session is printed out. It is this printout which is assessed. At the end of the session, take the printout to whoever is running the class, probably Dr King, and he will check it and, if satisfied, initial it.

Having one's printout initialled like this is the goal of each assessment and is known as 'getting a tick'. Two things are *essential*:

- Check that the printout really is initialled by the assessor.
- Keep the printout safely. It will form part of your examinable portfolio.

The Tick List

During the year a 'Tick List' will be maintained. This shows on a week-by-week basis how everyone is progressing. A copy of a page of the 2008–09 tick list is appended showing its state at the end of the year. As noted in the Announcements by the Head of Department, it is intended that everyone should achieve a full set of ticks. The sample from last year's Tick List shows that this intention is not unduly optimistic.

An up-to-date copy of the Tick List may be inspected via:

http://www.cl.cam.ac.uk/teaching/ticks/IAticks.html

Note that the demonstrators who issue the ticks should always have up-to-date copies of the Tick List. Please check the Tick List periodically.

Some exercises are easier than others but it is hoped that few people will need to spend more than 3 to 5 hours on *any* assessed exercise.

Workstation Availability

The workstations in Cockcroft 4 and in the Intel Laboratory may be used at any time of the day or night unless another group is having a formal practical class. The 'Assessed Exercise Work' entries in the Lecture-List *Reporter* note particularly popular times for using Cockcroft 4 but do not refer to formal classes.

Assessment 3 and How to Study Computer Science

There is no Guided Practical Session for the third ML asessed exercise but the general style presented in Weeks 1 and 2 should be adhered to for all the programming exercises.

At 5 p.m. on the third Thursday, following the ticking session and the afternoon Hardware class, there will be a talk in Arts School Room A about How to Study Computer Science.

Hints for Assessment 4

Assessed Exercise 4 is quite hard. For those who are not absolutely sure how to tackle the problem, there will be a briefing in the Hopkinson Lecture Room at 5 p.m. on the fourth Thursday, following the ticking session and the afternoon Hardware class.

Help Sessions

Some of the finer points of ML can be quite challenging and not everyone manages to understand everything first time. In recognition of this, three Help Sessions will take place in the Hopkinson Lecture Room on the fifth, sixth and seventh Thursdays of the Michaelmas Term. These are scheduled to begin at 5 p.m. which is when the afternoon Hardware classes are supposed to finish.

How to Install Linux

Part of the teaching programme for the year is to ensure that *two* well-known operating systems are used: Windows and Unix. To this end, the ML programs should be prepared and run under Windows and the Java programs should be prepared and run under Unix.

The Unix system which is available on the majority of University computers is Linux so, in preparation for the Lent Term, there will be a special lecture at 5 p.m. on the last Thursday of the Michaelmas Term which will explain how to install Linux on your personal computer.

Computing Techniques and Applications Course

This section applies to those who are taking subject Mathematics of the Natural Sciences Tripos. This includes most Computer Scientists and all Natural Scientists who offer CST Paper 1.

Those who are taking papers in the Mathematical Tripos and those Politics, Psychology and Sociology students who are taking Paper 1 of the Computer Science Tripos only, may ignore this section.

The Computing Techniques and Applications course takes place towards the end of the Michaelmas Term and is an examinable part of subject Mathematics in Part IA of the Natural Sciences Tripos. Accordingly, it is a mandatory course for all who are taking Natural Science Mathematics.

The lectures are timetabled for 11 a.m. on *either* Tuesdays and Saturdays *or* on Thursdays and Saturdays [the Thursday lecture is just a repeat of the Tuesday lecture]. This is the timetable slot allocated to Evolution and Behaviour. The first lecture is on Tuesday 10 November or Thursday 12 November.

Note that Course A and Course B combine for these lectures so whichever variety of NST Mathematics you are taking you should go to the Chemical Laboratory in Lensfield Road.

For anyone offering Evolution and Behaviour, there is a special two-morning course just after the end of the Michaelmas Term. This begins with a briefing at 9 o'clock on Thursday 3 December in Titan Teaching Room 2 in the New Museums Site.

The Assessed Exercise associated with the Computing Techniques and Applications course will be issued at a special briefing which is scheduled for 4:45 p.m. to 6 p.m. on Wednesday 3 March 2010. This briefing will take place in the Chemical Laboratory, Lensfield Road. It is essential to note this in your diaries now!

F.H. King
1 October 2009

UNIVERSITY OF CAMBRIDGE COMPUTER LABORATORY

COMPUTER SCIENCE TRIPOS, PART IA, 2010

Announcement by the Head of the Computer Laboratory

This Announcement relates to Regulation 11 of the Computer Science Tripos which is as follows:

11. A candidate for Part IA shall submit to the Head of the Department a portfolio of assessed laboratory work. The Head of the Department shall announce not later than the division of the Michaelmas Term next preceding the examination the nature of the laboratory work to be undertaken and the dates by which, and the manner in which, the results of such work are to be presented. The Examiners shall be provided by the Head of the Department with assessments of the work submitted by each candidate, and shall take these assessments into account when assigning marks for the examination.

Work to be Undertaken

During 2009–10, candidates taking Part IA of the Computer Science Tripos are required to undertake the following 20 units of assessed course work:

> ML under Windows — 6 Exercises
> Hardware Laboratory — 7 Experiments
> Java under Unix — 7 Exercises

Further details will be given by the proprietors of the associated classes.

The exercises and experiments will be assessed weekly in term. The work must be completed to a high standard; this requires more than simply obtaining the required result.

Each unit of course work that has been adequately completed will be given a tick. Fractions of ticks will not be awarded. An unsatisfactory exercise or experiment may be resubmitted.

Submission of Portfolio

In the Easter Term, candidates are required to submit complete portfolios of their course work to the Head of the Department. It is therefore essential to retain all the items that have been initialled by assessors. The portfolios must reach the Student Administrator by 12 noon on Friday 21 May 2010. Any candidate who fails to submit the portfolio by the deadline will incur a penalty.

The ratio of marks allocated to the two written papers (Computer Science Paper 1 and Paper 2) and to the portfolio will be 160:40.

The intention is that every candidate should achieve a full set of 20 ticks.

A. Hopper
Head of the Department

UNIVERSITY OF CAMBRIDGE COMPUTER LABORATORY

NATURAL SCIENCES TRIPOS, PART Ia, 2010
(SUBJECT COMPUTER SCIENCE)

POLITICS, PSYCHOLOGY AND SOCIOLOGY, PART I, 2010
(INTRODUCTION TO COMPUTER SCIENCE)

Announcement by the Head of the Computer Laboratory

This Announcement applies to candidates who are not Computer Scientists but who are offering Paper 1 of the Computer Science Tripos. The Announcement relates to Regulation 11 of the Computer Science Tripos which is as follows:

> 11. A candidate for Part IA shall submit to the Head of the Department a portfolio of assessed laboratory work. The Head of the Department shall announce not later than the division of the Michaelmas Term next preceding the examination the nature of the laboratory work to be undertaken and the dates by which, and the manner in which, the results of such work are to be presented. The Examiners shall be provided by the Head of the Department with assessments of the work submitted by each candidate, and shall take these assessments into account when assigning marks for the examination.

Work to be Undertaken

During 2009–10, candidates taking the Computer Science option of Part Ia of the Natural Sciences Tripos or the Introduction to Computer Science paper in Part I of the Politics, Psychology and Sociology Tripos are required to undertake the following 10 units of assessed course work:

> ML under Windows — 5 Exercises
> Java under Unix —   5 Exercises

Further details will be given by the proprietors of the associated classes.

The exercises will be assessed approximately fortnightly in term. The work must be completed to a high standard; this requires more than simply obtaining the required result.

Each unit of course work that has been adequately completed will be given a tick. Fractions of ticks will not be awarded. An unsatisfactory exercise may be resubmitted.

Submission of Portfolio

In the Easter Term, candidates are required to submit complete portfolios of their course work to the Head of the Department. It is therefore essential to retain all the items that have been initialled by assessors. The portfolios must reach the Student Administrator by 12 noon on Friday 21 May 2010. Any candidate who fails to submit the portfolio by the deadline will incur a penalty.

The ratio of marks allocated to the written paper (Computer Science Paper 1) and to the portfolio will be 80:20.

The intention is that every candidate should achieve a full set of 10 ticks.

A. Hopper
Head of the Department