Programming in Java

Introduction

This course consists of a series of practical classes designed to teach the basics of programming in Java. There are no lectures associated with this course, but there is a question based on it in the final exam. The material in this course relies on the material taught concurrently in Object-Oriented Programming.

In contrast to the practical assessment associated with Foundations of Computer Science last term, this course requires you to attend a two hour practical lesson once a week for the eight weeks in Lent Term. During the practical lessons you will work through course workbooks. You will also need to complete the associated assessed exercise, or tick, described at the end of each workbook.

The tasks you need to perform in week $n$ of the practical class are as follows:

1. Arrive at the practical class at the start of your allocated time period (1400-1600, or 1600-1800).

2. Find your computer as allocated on the seating plan (available on the course website or ask a demonstrator at the start of your session).

3. When the ticker comes to your desk, be prepared to discuss the practical work you completed for week $n-1$.

4. Leave your computer at the end of the session, taking your workbook(s) with you; you may continue to complete any exercises in your own time.

5. Ensure your solution to the exercises for week $n$ is correct (including any automated tests) and print it out ready for marking in week $n+1$.

Note: when $n=1$ (i.e. the first week), the ticker will mark your submission for ML tick 6 and when $n=8$ there is no additional work but the ticker will mark your submission for Java tick 7.

Bear in mind that this term the ticker will come to you, not the other way around; therefore you must sit in the correct place!

Those students who are offering only Paper 1 of the Computer Science Tripos need only complete the first five ticked exercises but are free (and encouraged) to attempt all seven. The starred exercises are optional to all students.
Course schedule

Week 1: 20-Jan-2011  Using PWF Linux: A helper guide to restarting the PWF machine to run Linux
Week 1: 20-Jan-2011  Workbook 1: Using the command line and the Java tools, introduction to primitive types and operators
Week 1: 20-Jan-2011  Workbook 1*: Investigating the binary representation of floating point numbers
Week 2: 27-Jan-2011  Workbook 2: Conditional execution and loops
Week 2: 27-Jan-2011  Workbook 2*: More loops
Week 3: 03-Feb-2011  Workbook 3: Arrays and references
Week 3: 03-Feb-2011  Workbook 3*: Animated graphics
Week 4: 10-Feb-2011  Workbook 4: Handling errors with exceptions and reading data from external sources
Week 4: 10-Feb-2011  Workbook 4*: Batch analysis and statistics
Week 5: 17-Feb-2011  Workbook 5: Interfaces and inheritance
Week 5: 17-Feb-2011  Workbook 5*: Audio synthesis
Week 6: 24-Feb-2011  Workbook 6: Building a Graphical User Interface (GUI)
Week 6: 24-Feb-2011  Workbook 6*: Drawing graphs
Week 7: 03-Mar-2011  Workbook 7: Handling GUI events
Week 7: 03-Mar-2011  Workbook 7*: More GUI programming
Week 8: 10-Mar-2011  Final practical class and ticking session of term