Basic Programming Skills

Your basic programming skills should, at least, include:

- Writing and compiling a program
- Debugging programs
- Input / output using files
- Use of variables, control structures, and loops
- Use of functions
- Basic knowledge of object-oriented concepts such as constructors, inheritance, and the use of interfaces
- Use of data structures such as arrays, lists, trees
- Knowledge of basic algorithms for searching and sorting

If you are already comfortable with Java programming, these should be familiar. However, if you are new to Java programming, you should spend the time getting familiar with these basic ideas.

Books You Can Use to Prepare

Beginners can read through Roger Cadenhead's *Sams Teach Yourself Java in 24 Hours*. It is available as an Amazon Kindle book as well as in hard copy. For those of you who are already pretty good with Java and need a quick reference for performing common tasks, *Java Phrasebook* by Timothy Fisher is a great pocket reference. Finally, if you are interested in the philosophy of Java programming, check out *Effective Java (2nd Edition)* by Joshua Bloch.

Class Notes

We will be posting class notes for Java and object oriented design on the course web site. More details to follow once classes begin.

Java Mini Course

At the end of the summer, and before the start of the semester proper, we will be offering a three day Java mini-course. Even if you're familiar with Java, this mini-course is a good way to make sure that you've covered all of the basics.

Programming Environments

You can download Java and the Java software development kit from Java.com. There is no charge for the software.

You can also download a free IDE (Integrated Development Environment) that includes a debugger, an editor, and various source browsing tools from Eclipse.org.

Email your instructors with your questions:

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