Module 133.0.1.1 :: Prerequisites :: Basic Java Programming

Basic Java Programming

From the course description, students taking this course are expected to have a thorough understanding of programming in a high level language such as C++, Java, Ruby, Eiffel, or Ada, as evidenced by at least three semesters programming experience. However, this course is not taught in a language-agnostic manner and Java is the introductory language at Sac State. Consequently, i reality, you will struggle in this course if you do not have at least a basic understanding of Java. If you come from an object oriented C like language, e.g., C++, then this should not be too much of a stretch.

While this is primarily targeted at transfer and graduate students who may not have experience with the Java language, all students will want to make sure that they are comfortable with the basic requirements for CSC-130 with respect to Java.

Expected understanding of this material:

- Design and implementation of medium size programs using multi-level decomposition, data abstraction, and procedural abstraction.
- Programming style and program documentation concepts.
- Program development process, including the distinction between compiling, linking, and executing programs.
- Use of a symbolic debugger, testing and debugging techniques.
- Records/structures, classes, and objects, not including inheritance and polymorphism.
- One dimensional arrays of structured types.
- Sub-programs and their appropriate use, including understanding of forward declarations of subprograms and why they are needed.
- Basic understanding of classes and objects.
- Parameter passing and its implications.
- Scope rules.
- Evaluation of various alternatives to select appropriate data structures.
- Stack, queue, linear list ADTs, their representation (contiguous/sequential, linked) and associated algorithms.
- Tools and techniques to allow generic data types.
- Representation of data structures (contiguous/sequential, linked).
- Data abstraction and procedural abstraction.
- The use of recursion in a program.

In addition, you should be comfortable with the following:

- Compiling and running programs that can execute from the command line
- Reading command line parameters
- Reading and writing text files

Reading Material

1. Review your materials for your prior programming courses
2. For C++ programmers, you might find this **cheat sheet helpfull**
3. The **Oracle tutorials** might also be helpful for a review

4. As recommended in the Quick Start, just jump into reading **Think Java**