Concept Guide: Overview of the Programming Process

Course: CS 200

Introduction to Java Programming, Comprehensive Version, 12th ed. Text

Chapter: 2 Elementary Programming (pages: 61-70)

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| Concept/Topic: | Text Notes: | Lecture Notes: |
| Algorithm |  |  |
| Software Development  Cycle  Overview |  |  |
| 1. Design Phase |  |  |
| Flowcharting |  |  |
| Pseudo-code |  |  |
| 2. Implementation Phase |  |  |
| 3. Testing Phase |  |  |
| 4. Debugging Phase |  |  |
| Types of Errors:  Compile  Run-Time  Logic |  |  |
| 5. Documentation |  |  |
| OOP |  |  |
| Object Features |  |  |
| Class  Encapsulation  and  Information Hiding |  |  |
| Polymorphism |  |  |
| Inheritance |  | A diagram of classes in a hierarchy. |
| The Java API Heirarchy |  | **Hierarchy For Package java.lang (limited display):**   * class java.lang.[**Object**](http://java.sun.com/j2se/1.4.2/docs/api/java/lang/Object.html)   + class java.lang.[**Boolean**](http://java.sun.com/j2se/1.4.2/docs/api/java/lang/Boolean.html)   + class java.lang.[**Character**](http://java.sun.com/j2se/1.4.2/docs/api/java/lang/Character.html)   + class java.lang.[**Class**](http://java.sun.com/j2se/1.4.2/docs/api/java/lang/Class.html)   + class java.lang.[**Math**](http://java.sun.com/j2se/1.4.2/docs/api/java/lang/Math.html)   + class java.lang.[**Number**](http://java.sun.com/j2se/1.4.2/docs/api/java/lang/Number.html)     - class java.lang.[**Byte**](http://java.sun.com/j2se/1.4.2/docs/api/java/lang/Byte.html)     - class java.lang.[**Double**](http://java.sun.com/j2se/1.4.2/docs/api/java/lang/Double.html)     - class java.lang.[**Float**](http://java.sun.com/j2se/1.4.2/docs/api/java/lang/Float.html)     - class java.lang.[**Integer**](http://java.sun.com/j2se/1.4.2/docs/api/java/lang/Integer.html)     - class java.lang.[**Long**](http://java.sun.com/j2se/1.4.2/docs/api/java/lang/Long.html)     - class java.lang.[**Short**](http://java.sun.com/j2se/1.4.2/docs/api/java/lang/Short.html)   + class java.lang.[**String**](http://java.sun.com/j2se/1.4.2/docs/api/java/lang/String.html) * class java.lang.[**System**](http://java.sun.com/j2se/1.4.2/docs/api/java/lang/System.html) |
| What library is imported into every program by default? |  |  |
| The Scanner Class |  |  |
| Lab Activity |  | Modify the “Hello World” program:   * add a prompt for your age as an integer value   + a prompt is a screen output message requesting data     - it should be specific as to the data you require * store the input value for use   + remember: make storage space for the data you are going to get, before you ask for the data * echo your age back to the screen after your name. * Rename class: HelloWorld2.java and save file as HelloWorld2.java |
| Error:  Undeclared  Uninitialized  Variables  And  Unused  Variables |  |  |
| Error:  Integer  Overflow |  |  |
| Error:  Round-off  Error |  |  |
| Error:  Unintended  Integer  Division  **THIS IS A BIG ONE – WATCH FOR IT!** |  |  |
| Warning:  Redundant  Input  Objects |  |  |