## Day 1:

- 1. 1. Introduction to Jython
  - 1. Jython Requirements
  - 2. Welcome to Jython
    - 1. Starting Jython
    - 2. Adding Items to the Window
    - 3. Adding Behavior
  - 3. What's Jython Good For?
  - 4. The Benefits of Jython
    - 1. For Java Programmers
    - 2. For Python Programmers

Quiz

## 2. 2. Jython Basics

- 1. Running Jython
- 2. Basic Types
- 3. Operators
- 4. Numeric Types
  - 1. Integer
  - 2. Long
  - 3. Float
  - 4. Complex
  - 5. Numerical Functions
- 5. Sequences: Lists and Tuples
  - 1. Sequence Access
  - 2. Sequence Functions and Functions
  - 3. Functional Programming
  - 4. Tuples: Immutable Sequences
- 6. Strings
  - 1. String Formatting
  - 2. String Functions
- 7. Mappings and Dictionaries
- 8. Jython Files
- 3. 3. Jython Control Flow
  - 1. Statements and Expressions
  - 2. Assignment
    - 1. Unpacking Assignment
    - 2. Augmented Assignment
  - 3. Printing
  - 4. Blocks
  - 5. Conditional Logic
  - 6. Loops
  - 7. List Comprehensions
  - 8. Exceptions
  - 9. Evaluating Code Dynamically
- 4. 4. Modules and Functions
  - 1. Modules
  - 2 Functions
  - 3. Parameter Passing with Style

- 1. Scoping Rules
- 2. Flying First Class
- 4. Import Statements and Packages
  - 1. Import Statements
  - 2. Importing Java Classes
    - 1. Auto-loading through lookup
  - 3. Reload
- 5. 5. Object-Oriented Jython
  - 1. Creating Classes
  - 2. Methods
  - 3. Classes, Instances, and Access Control
    - 1. Class and Static Attributes
    - 2. Access Control
    - 3. Get and Set Methods
    - 4. Using \_\_getattr\_\_
    - 5. Using setattr
  - 4. Inheritance
  - 5. Special Methods
    - 1. General Instance Special Methods
    - 2. Sequences and Mappings
    - 3. Numbers
- 6. 6. Using Java from Jython
  - 1. Basic Object Usage
  - 2. Automatic Type Conversion
    - 1. Managing Overloaded Methods
      - 2. Basic Data Conversions
      - 3. Converting Arrays
  - 3. Java Arrays and the jarray Module
  - 4. Java-to-Python Types: Automatic Conversion
  - 5. Collection Wrappers
  - 6. Avoiding Name Collisions
- 7. 7. Inheriting from Java
  - 1. Basic Mechanics
  - 2. Java Interoperation and Overriding
  - 3. Calling Super Methods and Constructors
- 8. 8. Reflection and JavaBeans
  - 1. Bean-Based Reflection
    - 1. Using Beans in Jython
    - 2. Indexed Properties
    - 3. Event Properties
  - 2. Python-Based Reflection
    - 1. Reflecting on Java Objects
    - 2. Active Reflection
- 9. 9. Using Swing
  - 1. Java Versus Jython
  - 2. A Calculator
  - 3. An HTML Browser
  - 4. An HTML Source Browser
- 10. Using Java Libraries
  - 1. JDBC and the Python Database API
    - 1. Using zxJDBC

- 2. Connection Objects
- 3. Cursor Objects
- 2. Servlets and PyServlet
  - 1. Using PyServlet
  - 2. A Python Template Tool
  - 3. Reloading Servlet Modules
- 3. Jython and XML
  - 1. SAX and DOM
  - 2. JDOM and Jython
- 11. 11. Jython Standard Library
  - 1. Using Python Modules
  - 2. System and File Modules
    - 1. The sys Module
    - 2. The os Module
    - 3. The os.path module
    - 4. File Pattern Matching with glob
  - 3. Regular Expressions
    - 1. The re Module
    - 2. Match Objects
    - 3. Regular Expression Objects
    - 4. Special Characters
  - 4. Serialization and Pickling
  - 5. Unit Testing with PyUnit
    - 1. Simple Tests
    - 2. Tests in Groups
- 12. Embedding Jython Inside Java
  - 1. Setting Up an Interpreter
  - 2. Executing Code
  - 3. Accessing the Interpreter Namespace
  - 4. Using PyObjects
  - 5. PyObject Subclasses
  - 6. Catching Exceptions
  - 7. Embedding Examples
- 13. Compiling Jython
  - 1. Why Compile?
    - 2. The Compiler in Action
      - 1. Java Source
      - 2. Top-Level Java
    - 3. Packaging in Java Archives
    - 4. Using Jython in Java
    - 5. A Simple Applet
- 14. A. Installing Jython
- 15. B. Jython Options and Registry
  - 1. Jython Options
  - 2. Jython Compiler Options
  - 3. The Jython Registry
- 16. C. Jython Exceptions
- 17. D. Jython and CPython Differences
  - 1. Jython Extensions
  - 2. Major Design Differences
  - 3. Minor Design Differences

- 4. Differences Due to Java Details
- 5. Differences Due to Java Limitations
- 6. Minor Issues
- 7. Java Objects Versus Python Objects