Groovy Programming

1. Introduction and Getting Started with Groovy
   - What is Groovy?
   - The Groovy Website and Documentation
   - Installation for Groovy on Windows
   - SDKMAN
   - groovysh
   - groovyc
   - Goorvy Console
   - Hello IntelliJ
2. Groovy Basics
   - Imports
   - Keywords
   - Comments
   - Assertations
   - Scripts
   - Classes
   - Numbers
   - Groovy Control Structure
   - Annotation & AST Transformation
   - Operators
   - Grapses
3. Data Types
   - Java Data Types
   - Groovy Data Types and Optional Typing
   - Working with Numbers
   - Operator Overloading
   - Strings
   - Regular Expression
4. Collection
   - Collections
   - Ranges
   - Lists
   - Maps
5. Closures
   - What are closures?
   - Creating Clousres
   - Closure Parameters
   - Collection Methods
   - Curry Methods
   - Closure Scope and Delegates
6. Control Structure

- Conditional Structure
- Looping
- Exception Handling
7. Object Oriented Programming
   - Classes/Field /Local Variables
   - Constructors and Methods
   - Organizing Classes into Packages
   - Inheritance
   - Interfaces
   - Traits
   - Groovy Beans
8. Meta Programming – Runtime
   - Introduction to Runtime Meta Programming
   - Meta Object Protocol
   - Customizing the MOP
   - Meta Class
   - Category Class
   - Intercept/ Cache / Invoke Pattern
9. Meta Programming – Compile Time
   - Introduction
   - @ToString
   - @EqualsAndHashCode
   - @TupleConstructor
   - @Canonical
   - @Singleton
   - @Sortable
   - @Immutable
   - @TypeChecked
   - @ComplileStatic
   - @Builder
10. Working with Builders
    - Intro to Builders
    - Markup Builder- XML
    - Markup Builder- HTML
    - JSON Builder
    - Object Graph Builder
    - List of Builders
11. Working with Rest Services
    - Introduction
    - Working with XML
    - Working with JSON
    - HTTP Request Methods (Verbs)
    - HTTP Status Codes

- Content Negotiation
- Using REST based APIs

12. Working with GDK
    - Introduction
    - Working with Files & I/O
    - Working with Files and Directories
    - Threads
    - Database Programming with Groovy
    - Templates
    - Dates