Java Slides Contents

#	Chapters	Sections	References
	Part I.	**Fundamentals of Java Programming**	
1.	Introduction	− Introduction − The Java Programming Language − The Java Platform − Java IDEs	Zakhour – C1
2.	First Program in Java	− HelloWorld Program	Zakhour – C1
3.	NetBeans IDE 6.0	− Installing the NetBeans IDE − First NetBeans IDE Project − IDE Windows − Source Editor − Customizing the IDE	Keegan – C1 & C2 Myatt – C1 & C2
4.	Object-Oriented Programming Concepts	− What Is an Object? − What Is a Class? − What Is Inheritance? − What Is an Interface? − What Is a Package?	Zakhour – C 2
5.	Variables	− Types of Variables − Naming − Declaring Variables − Primitive Data Types − Default Values − Getting Input from the Console: Scanner Class	Zakhour – C 3
6.	Operators	− Simple Assignment Operator − Arithmetic Operators − Unary Operators − Equality and Relational Operators − Logical Operators − Conditional Operator − Operator Precedence	Zakhour – C 3
7.	Expressions, Statements, and Blocks	− Expressions − Statements − Blocks	Zakhour – C 3
8.	Decision-Making Statements	− Introduction − The if-then Statement − The if-then-else Statement − The switch Statement	Zakhour – C 3
9.	Looping Statements	− The while Statement − The do-while Statement − The for Statement	Zakhour – C 3
10.	Branching	− The break Statement − The continue Statement	Zakhour – C 3

	Statements	– The return Statement	
11.	Methods	– Creating a Method – Calling a Method – Passing Parameters – Overloading Methods – The Scope of Local Variables – Method Abstraction	Liang - C 5
12.	Numbers	– Numeric Type Conversions – Math Class	Liang - C 5
13.	Packages	– Package Naming & Directories – Putting Classes into Packages – Using Classes from Packages	Liang - C 5
14.	Array Basics	– Introduction – Declaring an Array – Creating Arrays – Accessing an Array – Simple Processing on Arrays – Copying Arrays – Arrays and Methods	Liang - C 6
15.	Multidimensional Arrays	– Declaring and Creating of Two-Dimensional Arrays – Ragged Arrays – Simple Processing on Two-Dimensional Arrays – Three-Dimensional Arrays	Liang - C 6
16.	Searching and Sorting	– Searching Arrays – Sorting Arrays – Arrays Class	Liang - C 6 Zakhour – C3
	Part II.	**Object-Oriented Programming**	
17.	Objects and Classes (Part 1)	– Introduction – Defining Classes for Objects – Constructors – Creating Objects – Accessing an Object's Data and Methods – An Example: CreatObjectDemo.java – An Example: TestCircle1.java – Reference Data Fields and the null Value – Differences Between Variables of Primitive Types and Reference Types – Using Classes from the Java Library	Liang - C 7
18.	Objects and Classes (Part 2)	– Static Variables, Constants, and Methods – Visibility Modifiers – Data Field Encapsulation – Immutable Objects and Classes – Passing Objects to Methods – The Scope of Variables – Array of Objects	Liang - C 7

19.	GUI Basics	– Displaying Text in a Message Dialog Box – Getting Input from Input Dialogs Box	Liang – C 1 - 7
20.	Strings	– Introduction – String Class – Character Class – StringBuffer Class – Command-Line Arguments	Liang - C 8
21.	Text I/O	– File Class – Writing Data Using PrintWriter – Reading Data Using Scanner – Example: Replacing Text	Liang - C 8
22.	Formatted Output	– Formatting Output with printf – Printing Integers – Printing Floating-Point Numbers – Printing Strings and Characters – Printing with Field Widths and Precisions – Using Flags in the printf Format String	Deitel - C 28
23.	Exception Handling	– Exception-Handling Overview – Example: No Exception Handling – Example: Exception Handling – When to Use Exception Handling	Deitel - C 13
24.	Inheritance	– Superclasses and Subclasses – Using the super Keyword – Overriding Methods – The Object Class	Liang - C 9
25.	Generic Programming	– Polymorphism and Generic Programming – Casting Objects and the instanceof Operator – The protected Data and Methods – The final Classes, Methods, and Variables – The this Keyword – Abstract Methods and Classes	Liang - C 9
26.	Interfaces	– Definition – The Comparable Interface – Interfaces vs. Abstract Classes – Creating Custom Interfaces	Liang - C 10
27.	Object-Oriented Design	– The Software Development Process – Discovering Class Relationships – Case Study: Borrowing Loans	Liang - C 11
	Part III.	**Java Database Programming**	
28.	Database Concepts	– Introduction – Relational Databases – The books Database – Entity-relationship (ER) diagram	Deitel - C 25
29.	Microsoft Access 2007	– Database Design – Starting Microsoft Access – Tables	

		– Queries – Forms – Reports	
30.	SQL	– SQL query keywords – Basic SELECT Query – WHERE Clause – ORDER BY Clause – INNER JOIN Clause – INSERT Statement – UPDATE Statement – DELETE Statement	Deitel - C 25
31.	Accessing Databases with JDBC	– JDBC-ODBC driver – Creating an ODBC Data Source – Connecting to a Database – Querying a Database – Retrieving Metadata – Updating a Database	Deitel - C 25 & Liang - C 32
	Part IV.	**Data Structures and Algorithms**	
32.	Recursion	– Introduction – Example: Factorials – Example: Fibonacci Numbers – Recursion vs. Iteration	Liang - C 19 & Deitel - C 15
33.	Dynamic Data Structures	– Introduction – Linked Lists – ArrayList Class – Generics – LinkedList Class – Collections Class – Stack Class – PriorityQueue Class – HashSet Class	Deitel – C17 & C19 Liang – C21