

# Java Programming Lab Manual

Asadullah Shah

Zeeshan Bhatti



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INTERNATIONAL ISLAMIC UNIVERSITY MALAYSIA

# **JAVA PROGRAMMING LAB MANUAL**

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**Editors**

**Asadullah Shah  
Zeeshan Bhatti**

**Department of  
Kulliyah of Information & Communication Technology  
International Islamic University Malaysia**

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**TABLE OF CONTENTS**

Dedication	v
Preface	xi
Acknowledgement	xiii
Chapter 1: Introduction to Java	15
- Zeeshan Bhatti	
- Asadullah Shah	
Chapter 2: Compiling and Executing Java Code	21
- Zeeshan Bhatti	
- Asadullah Shah	
Chapter 3: Introduction to Data Types in Java	27
- Zeeshan Bhatti	
- Asadullah Shah	
Chapter 4: Arithmetic and Relational Operators	33
- Zeeshan Bhatti	
- Asadullah Shah	
Chapter 5: Relational and Logical Operators	39
- Zeeshan Bhatti	
- Asadullah Shah	
Chapter 6: Bitwise Operators and Type Casting	45
- Asadullah Shaikh	
- Zeeshan Bhatti	
- Asadullah Shah	
Chapter 7: Conditional Statements	51
- Asadullah Shaikh	
- Zeeshan Bhatti	
- Asadullah Shah	
Chapter 8: If-Else Statements	55
- Asadullah Shaikh	
- Zeeshan Bhatti	
- Asadullah Shah	
Chapter 9: The If-Else-If Statements	61
- Asadullah Shaikh	
- Zeeshan Bhatti	
- Asadullah Shah	

Chapter 10: Switch Statement	67
- Asadullah Shaikh	
- Zeeshan Bhatti	
- Asadullah Shah	
	73
Chapter 11: Loops	
- Agha Javed Phatan	
- Zeeshan Bhatti	
- Asadullah Shah	
Chapter 12: Do-While Loops	79
- Agha Javed Phatan	
- Zeeshan Bhatti	
- Asadullah Shah	
Chapter 13: For Loops	85
- Agha Javed Phatan	
- Zeeshan Bhatti	
- Asadullah Shah	
Chapter 14: Loop Pitfalls and Exercise	93
- Agha Javed Phatan	
- Zeeshan Bhatti	
- Asadullah Shah	
Chapter 15: Nested Loops	99
- Agha Javed Phatan	
- Zeeshan Bhatti	
- Asadullah Shah	
Chapter 16: Arrays in Java	105
- Waseem Javaid Soomro	
- Zeeshan Bhatti	
- Asadullah Shah	
Chapter 17: Two Dimensional Arrays	111
- Waseem Javaid Soomro	
- Zeeshan Bhatti	
- Asadullah Shah	
Chapter 18: Strings	119
- Waseem Javaid Soomro	
- Zeeshan Bhatti	
- Asadullah Shah	

Chapter 19: Methods of String Class	127
- Waseem Javaid Soomro	
- Zeeshan Bhatti	
- Asadullah Shah	
Chapter 20: Object and Classes	135
- Waseem Javaid Soomro	
- Zeeshan Bhatti	
- Asadullah Shah	
Chapter 21: Constructors	141
- Dil Nawaz Hakro	
- Zeeshan Bhatti	
- Asadullah Shah	
Chapter 22: User defined Methods	147
- Dil Nawaz Hakro	
- Zeeshan Bhatti	
- Asadullah Shah	viii
Chapter 23: Arguments Passing	155
- Dil Nawaz Hakro	
- Zeeshan Bhatti	
- Asadullah Shah	
Chapter 24: Return Statement	163
- Dil Nawaz Hakro	
- Zeeshan Bhatti	
- Asadullah Shah	
Chapter 25: Working with Classes	169
- Dil Nawaz Hakro	
- Zeeshan Bhatti	
- Asadullah Shah	
Chapter 26: Multiple Classes	177
- Muniba Shaikh	
- Zeeshan Bhatti	
- Asadullah Shah	
Chapter 27: Method Overloading and Overriding	185
- Muniba Shaikh	
- Zeeshan Bhatti	
- Asadullah Shah	

Chapter 28: Modifiers for class data	191
- Muniba Shaikh	
- Zeeshan Bhatti	
- Asadullah Shah	
Chapter 29: Inner Classes	199
- Muniba Shaikh	
- Zeeshan Bhatti	
- Asadullah Shah	
Chapter 30: Comparison between different class types	207
- Muniba Shaikh	
- Zeeshan Bhatti	
- Asadullah Shah	
Chapter 31: Exception Handling	215
- Kamran Khowaja	
- Zeeshan Bhatti	
- Asadullah Shah	
Chapter 32: Throw & Throws Keyword	223
- Kamran Khowaja	
- Zeeshan Bhatti	
- Asadullah Shah	
Chapter 33: Local Block and Static Block	231
- Kamran Khowaja	
- Zeeshan Bhatti	
- Asadullah Shah	
Chapter 34: Abstract Classes	237
- Dini Oktarina Dwi	
- Zeeshan Bhatti	
- Asadullah Shah	
Chapter 35: Interfaces	245
- Dini Oktarina Dwi	
- Zeeshan Bhatti	
- Asadullah Shah	

## Chapter 27

### Method Overloading and Overriding

Muniba Shaikh, Zeeshan Bhatti, Asadullah Shah

#### Abstract

Method Overloading and Overriding are two key principles of Object Oriented Language where multiple methods having same name can coexist in a class. The use and principles of these types of methods is discussed in this experiment with examples for easy understanding of students.

#### 27.1 Method Overloading

Methods of the same class that have the same name but different numbers or types of parameters are called *overloaded* methods. Two methods in the same class may have the same name, too, but then they must differ in the number or types of parameters. Then the compiler figures out which one to call. These are called “overloaded methods.”

- Methods in different classes may have the same name.
- Use overloaded methods when they perform similar tasks for example:

```
public void myCalcMethod (int x, int y)    { ... }  
public void myCalcMethod (double x, double y)  { ... }  
public void myCalcMethod (Point p)    { ... }  
public Fraction add (int n)    { ... }  
public Fraction add (Fraction other)    { ... }
```

- The compiler treats overloaded methods as completely different methods.
- The return type alone is not sufficient for distinguishing between overloaded methods.