incusdata (pty) ltd. 1995/04149/07
Coding · Matters
PO Box 148
Wierda Park, 0149
tel : +27 12 666 2020
info@incusdata.com
www.incusdata.com

Price: R12,200.00 excl. VAT
Duration: 4 days
Delivery: Virtual classroom or on-site training

Introduction to Java Programming

Description

Java is one of the most popular programming languages in the world. It is used to write many different types of programs, and it is also used to write automated tests for systems.

This course is for people who have little or no programming experience. You will learn the fundamental building blocks of programming, and how to read and write small programs in Java. This is the right course to start your journey as a Java programmer or tester.

Objectives

After you have completed the Introduction to Java Programming course, you will:

- Use an editor and a Java compiler.
- Understand different numbering systems and the principle of how computers store data.
- Understand the rules of Java syntax.
- Use variables and constants in Java to store values.
- Understand the concept of data types, and some of the Java data types.
- Use different kinds of Java operators in programming statements.
- Control the flow of a Java program with conditional ("if") and iterative ("loop") statements.
- Understand the concept of a method, and how to pass data to it and get data returned from it.
- Understand some basic concepts of object orientation and classes in Java.
- Write small Java programs.

Intended Audience

This course is for people who have little or no programming experience. You should attend the Introduction to Java Programming course if:

- You want to become a Java programmer.
- You want to be able to write automated scripts for Java programs.
- You want to have a better understanding of what programming is about.

Prerequisites

Before you attend the Introduction to Java Programming course:

- You should be familiar with the concepts of files and folders on your computer.
- You should be able to use a simple text editor.
- You should understand and be able to perform simple maths calculations that make use of addition, subtraction, multiplication, division, exponentiation, comparisons and the use of Pi.

Course Contents

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Introduction

- Goals, expectations and mindset.
- The importance of terminology.
- Thinking like a programmer.
- Why we need a programming language.
- Choosing a programming language.
- Why Java is so popular.
- Compilers, interpreters and editors.

Introduction to numbering systems

- Internal representation of data.
- Binary, octal, decimal and hexadecimal numbering systems.
- ASCII and Unicode.

Getting started

- The Java virtual machine.
- Using the command line.
- Compiling and running a simple Java program.
- Using the documentation.
- Java playgrounds.

Basic Java syntax

- Case sensitivity and whitespace.
- Statement syntax and blocks.
- Identifiers.
- Comments.
- Essential OO syntax.

Java data types and variables

- Creating and using variables.
- Creating and using constants.
- Numeric data types and literals.
- Boolean data type and literals.
- String data type and literals.
- Data conversion

Java expressions and operators

- Assignment operators.
- Comparison operators.
- Logical operators and the truth tables.
- Arithmetic operators.

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- String concatenation operator.
- Operator precedence.

Java control structures

- Conditional statements.
- Iterative statements.
- Nesting control statements.

Introduction to objects

- Concepts of object orientation.
- Objects and classes.
- Variables revisited.

Testing and debugging

- Sources of errors.
- Errors relating to internal representation.
- Debugging and error handling.
- Types of tests, and the role of automated testing.

** *The lecturer reserves the right to modify the contents of the course to suit the needs of the delegates.*