

Course : Programming

Fundamentals with Java

על המרצה – יניב ארד

יניב ארד הוא מהמרצים והמדריכים הטכנולוגיים המובילים בארץ. הוא הכשיר למעלה מ 6000 מפתחים בלמעלה מ 400 קורסים, וכיום מכשיר את אנשי הפיתוח בחברות הגדולות בארץ (סלקום, אלביט, בזק וכו') בזכות מתכנת ההכשרה הייחודית שפיתוח, מתכנת "Extreme70".

ליניב יש נסיון עשיר בהכנסה זהירה ובטוחה של אנשים אל עולם התכנות והקניית הידע והניסיון המקסימליים במסגרת הקורס. יניב, שאינו רק מרצה אלא ממש מנטור, מלווה ותומך אישית בכל התלמידים, בכל שעה ביממה וגם לאחר הקורס.

ניתן לקרוא עוד על יניב ב : www.yaniv-arad.com

Course Description

This hands on course introduces non-programmers to Java™ technology and Java programming techniques. The Java platform provides an object-oriented, portable and robust framework for application development. Included are core language concepts including fundamental data types, flow control, and standard function libraries. The course emphasizes object oriented programming and modular design to support distributed development environments. Included are the design of classes and objects, inheritance and polymorphism, and the details about creating programs for use on a distributed network. The course also includes coverage of the Java Collections API, fundamental I/O, exceptions, and exception handling.

Course Duration

40 Academic Hours (5 Days)

Prerequisites

Basic understanding in technical English.

Course Topics

Module 0 : Programming Fundamentals

- Algorithm
- Flow Diagram
- Initialize
- Variables
- Conditions
- Loops
- Declarations
- Pseudo Code
- Functions
- Procedures

Module 1 - Basics of Java

- Java - What, Where and Why?
- History and Features of Java
- Internals of Java Program
- Difference between JDK,JRE and JVM
- Internal Details of JVM
- Variable and Data Type

Module 2 - Control Flow statements

- Statements and it's various categories in Java
- if, if-else, if-else-if
- switch case
- for statement (both flavours traditional and enhanced for)
- while and do-while loops
- The continue Statement; labelled continue statement
- The break Statement; labelled break statement
- return statement

Module 3 - Input and output

- FileOutputStream & FileInputStream
- ByteArrayOutputStream
- BufferedOutputStream & BufferedInputStream
- FileWriter & FileReader
- CharArrayWriter
- Input from keyboard
- PrintStream class
- PrintWriter class
- DataInputStream and DataOutputStream

Module 4 - Object Oriented Concepts

- Advantage of OOPs
- Object and Class
- Method Overloading
- Constructor
- static variable, method and block
- this keyword
- Inheritance (IS-A)
- Aggregation and Composition(HAS-A)
- Method Overriding
- Covariant Return Type
- super keyword
- Instance Initializer block
- final keyword
- Runtime Polymorphism
- static and Dynamic binding
- Abstract class and Interface
- Encapsulation
- Object class
- Object Cloning
- Java Array
- Call By Value and Call By Reference

Module 5 - String Handling

- String : What and Why?
- Immutable String
- String Comparison
- String Concatenation
- Substring
- Methods of String class
- StringBuffer class
- StringBuilder class
- Creating Immutable class
- toString method

Module 6 - Exception Handling

- Exception Handling : What and Why?
- try and catch block
- Multiple catch block
- Nested try
- finally block
- throw keyword
- Exception Propagation
- throws keyword
- Exception Handling with Method Overriding
- Custom Exception

Module 7 - Collections

- The Collections Framework
- The Set Interface
- Set Implementation Classes
- The List Interface
- List Implementation Classes