TAN DUC INFORMATION TECHNOLOGY SCHOOL JSC
Address: 103 Pasteur, Dist.1, HCMC
Tel: 028 38245819; 38239761
Email: traincert@tdt-tanduc.com
Website: www.tdt-tanduc.com; www.tanducits.com

Let's Reach For Excellence!

Java Programming for Beginners

Duration: 03 days

This course helps you understand what Java programming is about, why it is important, and serves as a strong foundation for all Java-based development environments.

AUTODESK Authorized Training
Microsoft Silver Learning
amazon web services Partner Network Authorized Training
SOLIDWORKS Authorized Training
Accredited Training Center EC-Council
PEARSON VUE-Authorized Test Center
KRYTERION GLOBAL TESTING SOLUTIONS

AUDIENCE

This course is for anyone wanting to begin learning the Java language, whether you're a student, casual learner, or existing programmer looking to add a new language to your skillset. No previous experience of Java or programming in general is required.

COURSE OUTLINE

1. Getting Started with Java

    - What is Java?
    - Features of Java
    - Java applications
    - Setting up your development environment
    - Installing JDK
    - Installing the NetBeans IDE
    - Writing our first Java program
    - Creating a new project
    - Creating a Java class
    - Writing the code
    - Java comments
    - The main() function
    - Printing a string
    - Java syntax
    - Executing our program
    - How to interpret errors detected by NetBeans?
    - The code completion feature

2. Understanding Typed Variables

    - Integer variables
    - The solution of variables
    - Memory allocation for integer variables
    - Floating point variables
    - Behavior difference between integer and float data types
    - Type casting
    - The double data type
    - The Math class library
    - Using the pow() function
    - Importing class libraries
    - Char variables
    - Strings
    - The concatenation operator
    - The toUpperCase() function

- The replace() function
- Escape sequences

3. Branching

- Understanding if statements
- Conditional statements
- Using if statements
- Using else statements
- Complex conditionals
- The contains function
- Complex conditional statements
- The boolean variable
- Switch, case, and break
- Program using switch, case, and break
- While and do...while loops
- While loops
- The do...while loops
- For loops

4. Data Structures

- Working with arrays
- Declaring and initializing an array
- Assigning values to an array
- Array example in NetBeans
- Creating an array
- Creating a for loop
- Printing the alphabet
- Default initialization of arrays in Java
- Multidimensional arrays
- A multidimensional array example in NetBeans
- Creating a multidimensional array
- Using nested loops for multidimensional arrays
- Assigning different colors to our chessboard
- Printing the chessboard
- ArrayLists
- An ArrayList example in NetBeans
- Creating an ArrayList
- Getting user input
- Printing the ArrayList of user input
- Giving control to the user

- Analyzing ArrayIndexOutOfBoundsException
- Maps
- Creating a Map
- Assigning values to our Map
- Fetching information from our Map

5. Functions

- The basics of Java functions
- Methods
- Temperature conversion program
- Setting up the control flow
- Exploring separate cases - C, K, and F
- Celsius type
- Kelvin type
- Fahrenheit type
- Executing the first part of the program
- Executing the second part of the program
- Final touch to the program
- Advanced Java functions
- Operating java variables
- Using variables in the program
- Understanding passing parameters

6. Modeling With Object-Oriented Java

- Creating classes and objects
- Creating custom classes
- Creating member variables
- Creating member functions
- Creating constructors
- Types of constructors

7. More Object-Oriented Java

- Inheritance
- Creating a superclass
- The is-a relationship
- Overriding
- Data structure
- The abstract method
- The protected method
- Abstract

8. Useful Java Classes

    - The Calendar class
    - Subclasses of Calendar
    - Fetching the current day, month, and year
    - How Calendar works
    - String functionality
    - String literals versus String objects
    - String functions
    - The replace() function
    - The format() function
    - Exceptions
    - Analyzing the console exception messages
    - Handling exceptions
    - The try and catch blocks
    - The finally block
    - The Object class
    - Overriding the equals() method
    - Other Object methods
    - Primitive classes

9. File Input And Output

    - Writing data to files
    - The FileWriter class
    - Relieving resources using the close() method
    - The BufferedWriter class
    - Reading data from files
    - The FileReader and BufferedReader class
    - The Serializable class
    - Serializing an object
    - Deserializing an object

10. Basic GUI Development

    - Swing GUIs
    - The JFrame class
    - Setting the size of our window
    - Adding a label
    - Closing our application
    - The SwingUtilities class
    - A visual GUI editor tool – palette

- How palette works
- Event handling
- Adding a button
- Adding functionality to our button

11. XML

- Reading XML data
- Parsing XML data
- Accessing Jane's XML element
- Printing Jane's car details
- Writing XML data
- Java code to write XML data
- Modifying XML data