Java Basics

Course Objective:

This course introduces students to the fundamentals of Java programming. Through engaging lessons and hands-on exercises, students will learn essential programming concepts, object-oriented principles, and how to write simple Java programs. By the end of the course, students will have a foundation in Java and the ability to create their own projects..

Course Curriculum:

- Class 1: Introduction to Java and Development Environment
  - Overview of Java and its applications.
  - Setting up the Java development environment (JDK and IDE such as Eclipse or IntelliJ).
  - Writing and running a simple "Hello, World!" program.
- Class 2: Variables and Data Types
  - Introduction to variables and data types (int, double, char, boolean, etc.).
  - Declaring and initializing variables using proper naming conventions.
  - Simple arithmetic operations and exercises to practice using variables.
- Class 3: Basic Input and Output
  - Understanding standard input and output in Java.
  - Using Scanner for user input.
  - Creating interactive programs that take input and display output.
- Class 4: Conditional Statements
  - Introduction to conditional statements (if, else if, else).
  - Logical operators and combining conditions.
  - Writing programs that make decisions based on user input or other conditions.
- Class 5: Loops
  - Understanding loops (for, while, do-while) and their applications.
  - Writing programs with loops to perform repetitive tasks.
  - Nesting loops and using loop control statements (break and continue).
- Class 6: Methods and Functions
  - Introduction to methods and their importance in programming.
  - Defining and calling methods.
  - Understanding method parameters and return types.
- Class 7: Introduction to Object-Oriented Programming
  - Basics of object-oriented programming (OOP) concepts: classes and objects.
  - Creating simple classes and objects in Java.
  - Understanding the importance of encapsulation.
- Class 8: Arrays
  - Introduction to arrays for storing multiple values.
  - Declaring, initializing, and accessing array elements.
  - Simple programs to manipulate and process arrays.
- Class 9: Basic String Manipulation
  - Introduction to the String class and basic string operations.
  - Using string methods like substring, indexOf, length, and toUpperCase.
  - Exercises to practice manipulating and processing strings.
- Class 10: Final Project and Review
  - Integrate concepts learned throughout the course into a final project.
  - Guide students in designing and implementing a simple Java application.

- Review key concepts and provide feedback on projects.
- Celebrate achievements and encourage continued learning and exploration.

This curriculum is designed to provide a comprehensive introduction to Java programming, fostering both understanding and creativity in young learners as they embark on their coding journey.

Contact Us: **contact@brilliolearning.com**