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Approved Test Centre

INTERMEDIATE JAVA TRAINING
(Object Oriented Programming in Java)

Course Outline

Module 1 – OOP in Java

- Define modeling concepts: abstraction, encapsulation, and packages
- Discuss why you can reuse Java technology application code
- Define class, member, attribute, method, constructor, and package
- Use the access modifiers private and public as appropriate for the guidelines of encapsulation
- Invoke a method on a particular object
- In a Java technology program, identify the following: the package statement, the import statements, classes, methods, and attributes, and constructors
- Use the Java technology API online documentation

Module 2 – Class Design

- Define *inheritance*, *polymorphism*, o*verloading*, *overriding*, and *virtual method invocation*
- Use the access modifiers protected and “package-friendly”
- Describe the concepts of constructor and method overloading
- Describe the complete object construction and initialization operation
- In a Java program, identify the following: overloaded methods and constructors, the use of this to call overloaded constructors, overridden methods, invocation of super class methods, parent class constructors, and invocation of parent class constructors

Module 3 – Advanced Class Features

- Describe static variables, methods, and initializers
- Describe final classes, methods, and variables
- Explain how and when to use abstract classes and methods
- Explain how and when to use nested classes
- Distinguish between static and non-static nested classes
- Explain how and when to use an interface
- In a Java software program, identify: static methods and attributes, final methods and attributes, nested classes, interface and abstract classes, and abstract methods

Module 4 – Exceptions and Assertions

- Define exceptions
- Use try, catch, and finally statements
- Describe exception categories
- Identify common exceptions
- Develop programs to handle your own exceptions
- Use assertions
- Distinguish appropriate and inappropriate uses of assertions
- Disable assertions at runtime

Module 5 – Java Database Connectivity (JDBC)

- Learn how to connect to database
- Describe the Connection, Statement, PreparedStatements
- Introduction to SQL
- Create Java program that connects to database, insert, update, and delete data