

## CORE JAVA ASSESSMENT

Mindtree Customized Core Java Assessment. The Secure Evaluation Mode and Remote versions of this test will contain a minimum of 45 questions and will require a typical time of 54 minutes. The Secure Interview Mode and QwikChek versions will provide as many questions as the test taker can answer within an approximate 33 minute time limit.

Following is a description of each sub-topic on the test:

**Declarations** explores the declaration of core Java artifacts: instance, static and local variables of various types, methods, classes and interfaces, binary literals, Underscores in Numeric Literals and understanding of Java keywords through Java SE 7.

**Java Program Construction** assesses ability to construct and execute complete Java programs through Java SE 7.

**Object Orientation in Java** identifies knowledge of the key concepts of object-oriented programming applied to Java 7: object identity, encapsulation, coupling, cohesion, inheritance, overloading, overriding, and polymorphism.

**Operators** tests understanding of the different types of Java operators, including diamond operator and demonstrates their behavior and precedence in Java SE 7.

**Flow Control** assesses knowledge of Java's flow control statements: if, switch, switch with strings, for loop, enhanced for loop, break and continue for Java SE 7.

**Java Memory Management** measures understanding of the issues around memory use in Java SE 7, covering heap allocation, memory leaks, garbage collection and use of finalizers.

**Java I/O** measures proficiency in file creation, file reading/writing and serialization, new file API `java.nio.file` for Java SE 7.

**Access Modifiers** measures understanding of the keywords and techniques for access control of variables, methods and classes in Java SE 7 code.

**Compilation and Deployment** evaluates understanding of issues related to compilations and execution of Java SE 7 code: executing code, finding classes at runtime and using jar files, Safe Varargs Method Invocation.

**Generics and Collections** evaluates understanding of generics in Java SE 7, primarily the creation and use of generic collections. Type Inference for Generic Instance Creation.

**Class and Interface Usage** measures knowledge of use of interfaces; use of inner classes, Anonymous classes, use of constructors, static nested classes, with Java 7.

**Strings, Formatting and Parsing** analyzes use of the String, StringBuffer and StringBuilder classes; use of Numbers and Currencies; and use of Regular expressions.

**Exception Handling** evaluates understanding of raising, catching and handling checked and unchecked exceptions, try-with-resources, Catching Multiple Exception Types in Java SE 7.

**Concurrency** tests knowledge of process and thread execution, locks, thread synchronization, fork-join and immutable objects.

**Java Classes** measures knowledge of fundamental classes like: Object, Class, wrapper classes, ClassLoader and Multithreaded Custom Class Loaders.