Fundamental/Basics

* Path
* Classpath
* Command line inputs
* Multiple classes in a single source file
* Scanner for user input
* System.console for user input

* Variables – instance, static, parameter, local variable
* Variable naming conventions
* Data types and primitive types – default values
* Wrapper classes
* Autoboxing and unboxing

* Numbers and underscores
* Array – initialization and iterations
* Array manipulation
* Var for local variables

* Unary operators
* Mathematics
* Postfix and prefix
* Comparison
* Conditional or Logical – and, or
* Compound assignment
* Instance of

* Expression
* Statement
* Blocks
* If, do-while, for loops
* Break, continue and return
* String in switch statement

Classes and Objects

* Class and its member
* Access specifiers
* Object, state and methods
* Overloading methods
* Constructors
* Parameters and arguments
* Varargs
* Pass by value
* Pass by reference

* Instatiation
* Initialization
* Garbage collector
* This keyword
* Shadowing field
* Initialization and static initialization
* Constants

* Nested classs
* Inner classes
* Static inner classes
* Shadowing
* Anonymous and local classes
* Serialization
* Enums

* Math class
* Number formats
* Random numbers
* Escape sequence

* String
* Mutability
* String format
* Converting other types to string
* Few string methods such as indexing, compare, substring etc.
* StringBuilder and StringBuffer

* Inheritance
* Access modifiers in inheritance
* Casting
* Multiple inheritance in Java
* Overriding
* Hiding methods
* Super keyword
* Final class and methods

* Polymorphism
* Basic Object class methods
* Abstract methods and classes

* Interfaces
* Extending interfaces
* Implementing interfaces
* Static methods in interface
* Default methods
* Interface as a type

Generics

* Generic class
* Generic methods
* Diamond operator
* Parameterized type
* Inheritance impact in generics
* Type inference

Lambda expression

* Functional interface
* Function, supplier, consumer, Predict
* Method references
* Chain methods

Annotations

Predefined annotations

Package creation

Importing

Abstraction in packages

Static import

Exception

* Exception & Errors
* Exception call stack
* Try-catch-finally
* Catch or specify (throw) approach
* Checked exception, error and runtime exception
* Multicatch
* Try with resources
* Throwing Exception
* Chained Exception
* Custom exception
* Stack tree

Collection

* Collection vs array
* Iterable
* List, Set & Map
* Common collection operations
* Collection to array and array to collection
* Iterating collection using for…each
* Stack and queue
* Push and pop
* LIFO and FIFO

Stream

* Map-filter-reduce
* Collection to Stream
* Array to stream
* Stream to collection
* Stream to Array
* Optional
* Parallel stream

File IO

* Stream & Reader in IO
* Accessing Files and Directories
* Reading & writing text and binay files

DateTime

* Date options
* Date and Time options
* TimeZone
* Instant
* Temporal

Regular expression basics

Reflection

Invoking methods/constructors using reflection

Read/write to fields using reflection

Basic Threads

Synchronization

Runnable vs Thread

InterruptedException