Core Java and OOP

**Introduction to Java**

* What is Java
* Features of Java
* Editions of Java
* Installation of JDK
* Introduction to Spring Tool Suite (STS) IDE for Java
  + Creating and managing Java Projects
* Setting up Java Environment

**Introduction to Language Fundamentals**

* Data Types
* Variable declarations
* Keywords
* Operators and assignments
* Naming conventions for Java Code
* Reference Data types

**Introduction to OOP**

* Class and methods
* Understanding objects
* Accessing properties
* Encapsulation in OOP
  + Access Modifiers
  + Packages
* Understanding methods
  + Passing parameters
  + Passing objects
* this keyword
* Constructors
* Setter and getter methods
* Method overloading
* Static and final keywords

**Inheritance and Polymorphism**

* Introduction to inheritance
* Types of inheritance
* Creating base class and child class
* Invocation of constructors
* Method overriding
* Overloading vs Overriding
* Polymorphism
* Abstract class and abstract methods
* Introduction to interfaces
  + What is an interface?
  + Implementing interfaces
* Creating Arrays
* Wrapper classes
* String class

**Exception Handling**

* Introduction to exception handling
* Types of exceptions
  + Checked exceptions
  + Unchecked exceptions
* Handling exceptions using try, catch, finally and throws
* Creating custom exception
* throw keyword

**Collection Framework**

* Introduction to collection framework
* Collection API interfaces
  + Collection
  + List, Set and Queue
  + Map
  + Iterator, ListIterator, Enumeration
  + Comparable and Comparator
* Introduction to Generics
* Use of wildcard character in Generics

**Java 8 Features**

**Introduction to JDBC**

* What is JDBC?
* What does JDBC do?
* Why JDBC?
* Database Access Steps
  + Loading Driver
  + Creating JDBC Statements
  + Statement, PreparedStatement and CallableStatement
  + CRUD operation
* Invoking stored procedure in Java Application