

## Java OOP Lectures — Learn With Tawhid

- L1: Understanding Class & Object
- L2: Creating a Design Class in a Separate File
- L3: Intro to Class and Objects
- L4: Working with Instance Variables: Access and Modification
- L5: Objects and Their Memory Locations Explained
- L6: Java Instance Methods: Simplified for Easy Understanding
- L7: Using Methods to Update Instance Variables
- L8: THIS Keyword — Local vs Instance Variables
- L9: Understanding When to Return from Java Methods
- L10: Method Overloading — Example 1
- L11: Method Overloading — Example 2
- L12: Constructors and the Student Class
- L13: Constructor Overloading — Step-by-Step Guide
- L14: Constructor Overloading — Car Class Example
- L15: Pass by Reference — Student Class
- L16: Java Multi-Class and Pass by Reference
- L17: Access Modifiers — Public, Private, Protected, Default
- L18: Private Instance Variables and Custom Methods
- L19: Encapsulation — Getters and Setters
- L20: Private Methods — Why and When to Use
- L21: Static vs Instance Variables — Real Life Example
- L22: Object Counting with Static Variables
- L23: Local vs Instance vs Static Variables
- Exercise: Static Variable Tracing and Reference Passing
- L24: Instance vs Static Methods (Theory)
- L25: Static Variables with Static Methods
- L26: Inheritance — Intro, Types, Super Keyword

- L27: Single Inheritance — Real Example
- L28: Super() in Constructor — Deep Dive
- L29: Hierarchical Inheritance — CSEStudent and BBASStudent
- L30: Multilevel Inheritance — Real World Example
- L31: Accessing Variables — Local vs this vs super
- Exercise: Inheritance Tracing and Reference Passing
- L32: Method Overriding in Java
- L33: toString() — Make Objects Readable
- L35: Compile Time Polymorphism
- L36: Runtime Polymorphism — Dynamic Dispatch and UpCasting
- L37: Upcasting, Downcasting, and instanceof
- Exercise: Polymorphism Tracing — Part 1 of 2
- Exercise: Polymorphism Tracing — Part 2 of 2