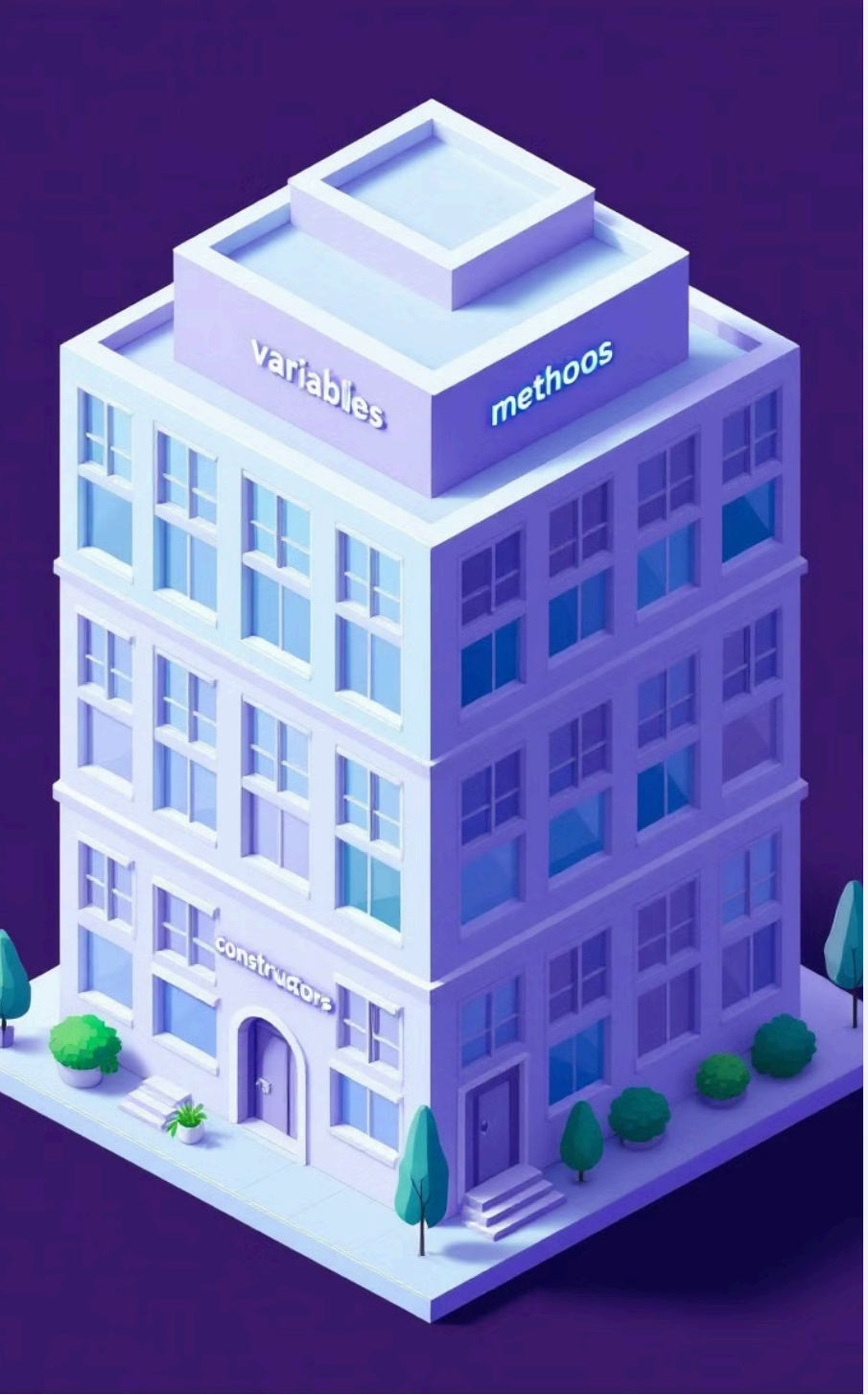
Anatomy of a Java Program: Unveiling the Structure

Java stands as a cornerstone of modern software development, celebrated for its platform independence and object-oriented design. Its programs are designed to run on any device, regardless of the operating system or hardware. Understanding the underlying structure of a Java program is key to writing efficient and maintainable code. This involves exploring the fundamental elements: classes, methods, variables, statements, and the overall execution flow. These components work together to define the behavior and functionality of Java applications. In this presentation, we break down the anatomy of Java programming.



The Basic Building Block: Classes

Classes are the basic building blocks of any Java program. Think of a class as a blueprint for creating objects. It encapsulates data (variables) and behavior (methods) into a single unit. This encapsulation helps organize code, making it more modular and reusable. Java file names need to match the class name, for instance, a class called **ClassName** must be in a file called **ClassName.java**.

Definition

Classes are blueprints for creating objects, encapsulating data and behavior.

Syntax

```
public class ClassName { ... }
```

Convention

Java file name must match the class name (**ClassName.java**).