

# SUMMER INTERNSHIP PROGRAM 2024 BROCHURE

## CORE JAVA WITH AI



# WEEK 1: INTRODUCTION TO JAVA BASICS

- Overview of Java programming language
- Setting up Java Development Environment (JDK, IDE)
- Writing and executing a simple "Hello, World!" program
- Understanding variables, data types, and basic operations
- Introduction to control flow: if-else statements, loops (for, while)



# WEEK 2: LOOPS AND CONTROL FLOW

- Understanding different types of loops: for, while, do-while
- Using loops for repetitive tasks and iteration
- Nested loop and loop control statements (break, continue)
- Practice exercises to reinforce loop concepts and problem-solving skills



# WEEK 3: OBJECT-ORIENTED PROGRAMMING (OOPS) CONCEPTS

- Introduction to Object-Oriented Programming (OOPS) principles
- Understanding classes and objects
- Creating and using classes and objects in Java
- Encapsulation, inheritance, and polymorphism
- Practice exercises to reinforce OOP concepts



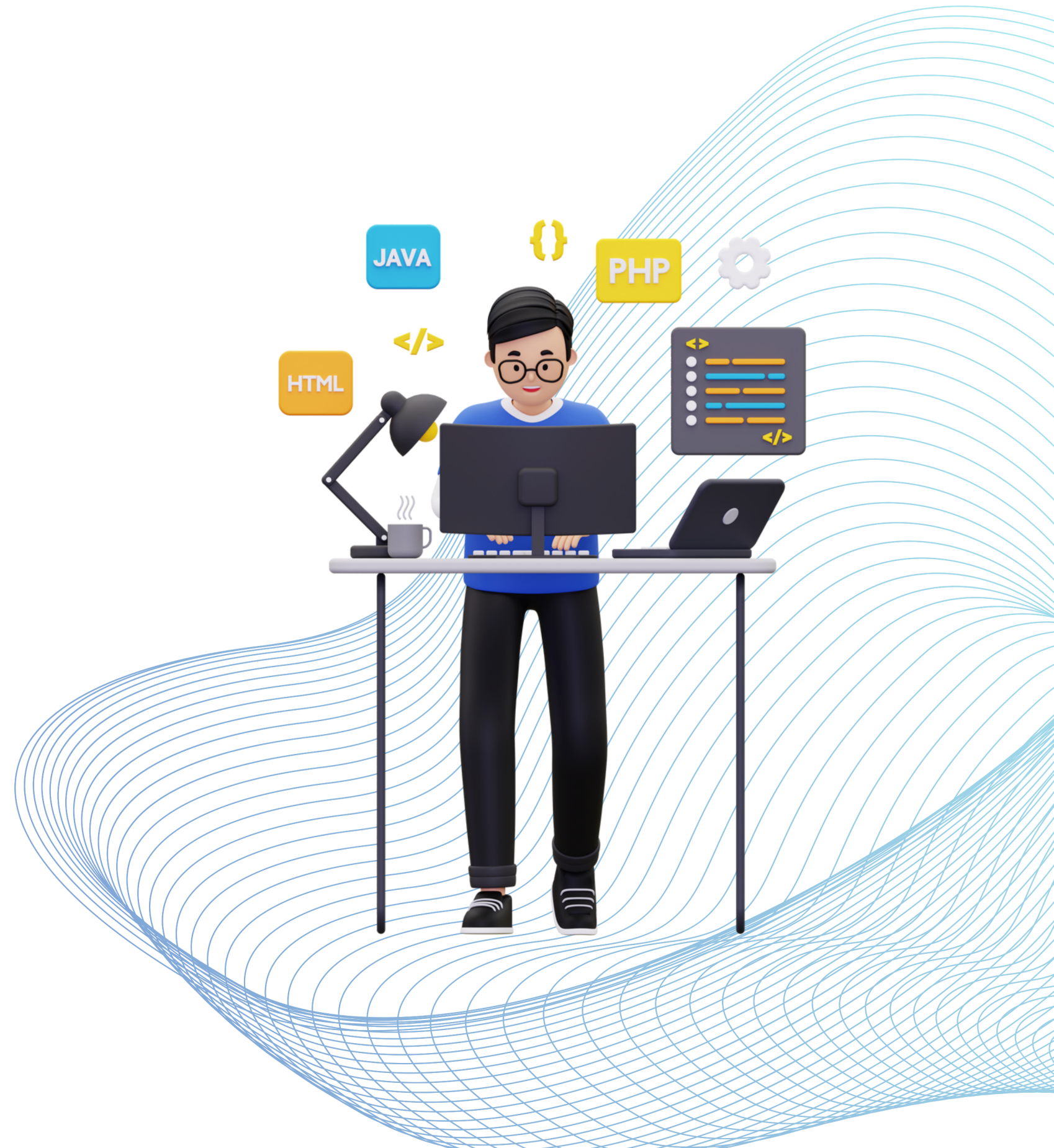
# WEEK 4: ARRAYS, STACKS, AND PROJECTS

- Understanding arrays and array operations in Java
- Working with one-dimensional and multi-dimensional arrays
- Introduction to stacks and stack operations
- Designing and implementing projects using arrays and stacks



# WEEK 5: JAVA PROJECTS - PART 1

- Continuing work on projects started in Week 4
- Implementing additional features and functionalities
- Refactoring code and optimizing performance
- Testing and debugging projects



# WEEK 6: JAVA PROJECTS - PART 2 (PROJECT COMPLETION)

- Finalizing and polishing projects
- Conducting comprehensive testing
- Documenting code and project functionalities
- Presenting and reviewing projects with peers and mentors
- Reflecting on project development process and lessons learned

