# Java Summer Program NYC (High School)

This course will prepare you to excel as a programmer throughout college and beyond!

Beginners will become advanced coders through our fast-moving curriculum and projectbased approach to learning.

Group classes in NYC and onsite training is available for this course. For more information, email <a href="mailto:corporate@nobledesktop.com">corporate@nobledesktop.com</a> or visit: <a href="https://www.nobledesktop.com/classes/java-programming-summer-camp">https://www.nobledesktop.com/classes/java-programming-summer-camp</a>



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## **Course Outline**

#### Section 1

#### **Coding Overview**

- Lexical & Syntax Analysis
- · Working with the Terminal
- Computer Systems
- First Program

#### Variables, Data Types, and Operators

- Basic Variable Usage
- Data Types
- Operators
- Proper Programming Practices

#### Section 2

#### **Control Flow**

- Conditional Statements
- Truth Tables
- · For Loops
- While Loops

#### **Functions**

- Declarations
- Overloading

Return Values

#### Section 3

#### Arrays, Strings, and Dictionaries

- Array Processing
- Multi-dimensional Arrays
- String Methods
- String Manipulation
- Operations in Dictionaries

#### Section 4

#### Input/Output Files

- · Streams and Files
- String Formatting
- · Redirecting Output

## Section 5

### **Object Oriented Programming**

- Encapsulation
- Classes
- Inheritance
- Polymorphisim
- Abstraction

## Section 6

#### Recursion

- Recursive Functions
- Recurrence Relation
- Base Case Analysis
- Motivation Behind Recursion