

# Java Programming Cheat Sheet

Quick Reference Guide

## Syntax Basics

- Data Types: int, double, char, String, boolean
- Variables: int num = 10;
- Operators: +, -, \*, /, %, ++, --
- Input/Output: Scanner, System.out.println()

## OOP Concepts

- Class/Object: class MyClass { ... }
- Inheritance: class SubClass extends SuperClass
- Polymorphism: method overriding
- Encapsulation: private variables, public methods

## Arrays & Strings

- Array: int[] arr = new int[10];
- String Methods: length(), charAt(), substring()

## Collections Framework

- List: ArrayList, LinkedList
- Set: HashSet, TreeSet
- Map: HashMap, TreeMap

## Control Statements

- if-else: if (condition) { ... } else { ... }
- Switch: switch (variable) { case: ... }
- Loops: for, while, do-while

## Methods & Constructors

- Method: returnType methodName(parameters) { ... }
- Constructor: MyClass() { ... }

## Exception Handling

- Try-Catch: try { ... } catch (Exception e) { ... }
- Finally: finally { ... }

## Multithreading

- Thread Creation: extends Thread, implements Runnable
- Synchronization: synchronized keyword