

# Day 3: Java Methods and Arrays

---

Hey everyone!

Yesterday, we covered the basics of Java operators and control structures. Today, we're going to dive into two more fundamental concepts in Java programming: methods and arrays.

## Methods

In Java, a method is a block of code that can be executed multiple times from different parts of your program. Methods allow you to:

Reuse code: Write a method once and use it multiple times in your program.

Organize code: Break down a large program into smaller, manageable chunks.

Improve readability: Give a method a descriptive name that explains what it does.

Here's an example of a simple method in Java:

```
public class HelloWorld {  
    public static void printHello() {  
        System.out.println("Hello, World!");  
    }  
  
    public static void main(String[] args) {  
        printHello(); // Output: Hello, World!  
    }  
}
```

## Arrays

An array is a data structure in Java that stores a collection of values of the same type. Arrays are useful when you need to store a large amount of data and access it efficiently.

Here are some key things to know about arrays in Java:

Declaring an array: `int[] scores = new int[5];`

Initializing an array: `int[] scores = {10, 20, 30, 40, 50};`

Accessing an array element: `scores[0] = 10;`

Array length: `scores.length`

returns the number of elements in the array.

Here's an example of using an array in Java:

```
public class ArrayExample {  
    public static void main(String[] args) {  
        int[] scores = {10, 20, 30, 40, 50};  
        System.out.println("Average score: " + calculateAverage(scores));  
    }  
  
    public static double calculateAverage(int[] scores) {  
        int sum = 0;  
        for (int score : scores) {
```

```
sum += score;  
}  
return (double) sum / scores.length;  
}  
}
```

### Takeaway

Methods and arrays are two essential concepts in Java programming. By mastering these concepts, you'll be able to write more efficient, readable, and scalable code.

### Challenge

Try writing a Java program that uses a method to calculate the sum of an array of integers. Then, modify the program to use a for loop to iterate over the array instead of a for-each loop.

### Resources

[Oracle Java Tutorials: Methods in Java](#)

[Oracle Java Tutorials: Arrays in Java](#)

Happy coding, and I'll see you in the next post!

---