

Java Bytes 1

Static Data

The reserved word "static" means that a variable or method belongs to the entire class, not to individual objects. Static members of a class are accessible within every method of the class.

Static class variables are declared outside of any method.

Example: Below is the beginning of a class with some static class variables.

```
public class JavaBytes1 {  
    public static int limit = 100;  
    public static int array[ ] = { 1, 2, 8, 20 };
```

Returning an Array Reference

In Java, methods can return only one value. If we have a group of values stored in an array, the one return value can be a reference to the array.

Example: Here's a method that creates an array, fills it with random numbers, and returns a reference to the array.

```
// A method that returns an array reference  
public static int[] randomArray( int arraySize, int min, int max ) {  
    // declare and instantiate the array  
    int[] array = new int[ arraySize ];  
    // fill the array  
    for (int i = 0; i < array.length; i++)  
        array[i] = (int) (Math.random() * (max - min + 1) + min);  
    // return a reference to the array  
    return array;  
}
```

The "for-each" Loop

By now you've written many, many for loops using the typical syntax:

```
for (int i = 0; i < 10; i++)
```

Java has another for loop syntax called the "for-each" loop. This type of for loop is used to iterate over all elements of an array or other iterable variable. It looks like this:

```
for ( type element : array )
```

The type must be the type of the array elements. The loop repeats once for each element in the array, from the beginning of the array moving forward to the end of the array.

The "for-each" loop has advantages and disadvantages. One disadvantage is that you don't have access to the index when you use the "for-each" loop.

Example:

```
String[] cars = {"Volvo", "BMW", "Ford", "Mazda"};  
for (String i : cars) {  
    System.out.println(i);  
}
```

See the program `JavaBytes1.java` for a complete program that uses these concepts.