Arrays

Array - sequence of values, called elements

```java
int[] counts = new int[4];
double[] values = new double[size];
int[] counts = {97, 43, 2};

// access elements
values[4]
values[i] // for loops

// add elements
ArrayList <String> arr = new ArrayList<String>();
arr.set(0, "Columbia");
arr.add("brazil");
countries[1] = "France";

// for each loop
for (String coffee : coffees)
// counter controlled loop
for (int i = 0; i < values.length; i++)

//ToString
System.out.println(Arrays.toString(values));

// copy array reference
double[] a = new double[3];
double[] b = a;

// copy array contents
double[] b = new double[3];
for (int i = 0; i < 3; i++)
{
    b[i] = a[i];
}
// or
double[] b = Arrays.copyOf(a, 3); // 3 lines from array a

Testing Arrays
assertThat(result).contains("Americano", "Mocha"); //check if they exist in the array
assertThat(result).containsExactly(
    "Espresso", "Mocha", "Decaf", "Americano"); // checks exact
// If you want to check values are not present
assertThat(result).doesNotContain("table", "chair");

// To check the first few elements, without worrying about others
assertThat(result).startsWith("Espresso", "Mocha");

// To check the last few elements, without worrying about others
assertThat(result).endsWith("Mocha", "Decaf", "Americano");
```

```
// To check these occur only once in array, are not duplicated
assertThat(result).containsOnlyOnce("Mocha", "Americano");

Operators in Java:
Unary (1 operand)
Binary (2 operands)
Ternary (3 operands)
//exp1 is returned, else exp2 is returned
booleanExpression ? expression1 : expression2
```