**Week 3 M4: Programming Assignment  
Arrays**

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CSD402-H323 Java for Programmers (2261-DD)

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August 31st, 2025

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**GitHub Repository Link:**

<https://github.com/Juan551School/csd-402>

**Java Code**

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**package** arrays;

**public** **class** ArrayProblems {

// Overloaded method for short array

**public** **static** **short** average(**short**[] array) {

**int** sum = 0; // use the int to avoid overflow

**for** (**short** num : array) {

sum += num;

}

**return** (**short**) (sum / array.length);

}

// Overloaded method for int array

**public** **static** **int** average(**int**[] array) {

**long** sum = 0; // use long to avoid overflow

**for** (**int** num : array) {

sum += num;

}

**return** (**int**) (sum / array.length);

}

// Overloaded method for long array

**public** **static** **long** average(**long**[] array) {

**long** sum = 0;

**for** (**long** num : array) {

sum += num;

}

**return** sum / array.length;

}

// Overloaded method for double array

**public** **static** **double** average(**double**[] array) {

**double** sum = 0.0;

**for** (**double** num : array) {

sum += num;

}

**return** sum / array.length;

}

// Method to print arrays nicely

**public** **static** **void** printArray(String label, Object array) {

System.***out***.println(label + " = " + java.util.Arrays.*toString*((Object[]) array));

}

// Overloaded printArray methods for primitive arrays (since Arrays.toString works differently)

**public** **static** **void** printArray(String label, **short**[] array) {

System.***out***.println(label + " = " + java.util.Arrays.*toString*(array));

}

**public** **static** **void** printArray(String label, **int**[] array) {

System.***out***.println(label + " = " + java.util.Arrays.*toString*(array));

}

**public** **static** **void** printArray(String label, **long**[] array) {

System.***out***.println(label + " = " + java.util.Arrays.*toString*(array));

}

**public** **static** **void** printArray(String label, **double**[] array) {

System.***out***.println(label + " = " + java.util.Arrays.*toString*(array));

}

// Test program output I was not that original with the numbers to make sure it worked

**public** **static** **void** main(String[] args) {

**short**[] shortArr = {10, 20, 30};

**int**[] intArr = {5, 10, 15, 20};

**long**[] longArr = {100L, 200L, 300L, 400L, 500L};

**double**[] doubleArr = {2.5, 3.5, 4.5, 5.5, 6.5, 7.5};

// Test short[]

*printArray*("Short Array", shortArr);

System.***out***.println("Average (short) = " + *average*(shortArr));

System.***out***.println();

// Test int[]

*printArray*("Int Array", intArr);

System.***out***.println("Average (int) = " + *average*(intArr));

System.***out***.println();

// Test long[]

*printArray*("Long Array", longArr);

System.***out***.println("Average (long) = " + *average*(longArr));

System.***out***.println();

// Test double[]

*printArray*("Double Array", doubleArr);

System.***out***.println("Average (double) = " + *average*(doubleArr));

System.***out***.println();

}

}

**Pictures of Code Running**

