1. Assign a method of String with a parameter name. Transfer the method to the main method and print it.

public class StringMethodExample {

public static void main(String[] args) {

String name = "Alice"; // Assign a name

printName(name); // Call the method and print the name

}

public static void printName(String name) {

System.out.println("Hello, " + name + "!");

}

}

1. Assign one method of int and one double and give them parameters x, y and z.  Make a mathematical operation in the same of your own choice and print them in the main method.

public class MathOperationsExample {

public static void main(String[] args) {

int x = 5;

double y = 3.5;

double z = 2.0;

double result = performCustomOperation(x, y, z);

System.out.println("Result: " + result);

}

public static double performCustomOperation(int x, double y, double z) {

// Example: Multiply x by y and add z

return x \* y + z;

}

}

1. Make a double method containing an array and calculate the average value of the array. Print the result in the main method.

public class ArrayAverageExample {

public static void main(String[] args) {

double[] numbers = { 10.5, 8.0, 12.3, 6.7 };

double average = calculateAverage(numbers);

System.out.println("Average: " + average);

}

public static double calculateAverage(double[] arr) {

double sum = 0.0;

for (double num : arr) {

sum += num;

}

return sum / arr.length;

}

}

1. Write two methods. One that will return the odd numbers in the array, and the other one will return the even one.

public class OddEvenArrayExample {

public static void main(String[] args) {

int[] numbers = { 1, 2, 3, 4, 5, 6, 7, 8, 9 };

int[] oddNumbers = getOddNumbers(numbers);

int[] evenNumbers = getEvenNumbers(numbers);

System.out.println("Odd Numbers: " + Arrays.toString(oddNumbers));

System.out.println("Even Numbers: " + Arrays.toString(evenNumbers));

}

public static int[] getOddNumbers(int[] arr) {

return Arrays.stream(arr).filter(n -> n % 2 != 0).toArray();

}

public static int[] getEvenNumbers(int[] arr) {

return Arrays.stream(arr).filter(n -> n % 2 == 0).toArray();

}

}

1. Write a method with 2 integer parameters and calculate the sum of the same. The main function of the method will be that if the sum of the parameters is bigger than 10 to print a message “Sum is bigger than 10” or “Sum is smaller than 10” . Additionally, if the sum is equal to 10, print ”Sum is equal to 10”.

public class SumComparisonExample {

public static void main(String[] args) {

int a = 7;

int b = 5;

int sum = calculateSum(a, b);

if (sum > 10) {

System.out.println("Sum is bigger than 10");

} else if (sum < 10) {

System.out.println("Sum is smaller than 10");

} else {

System.out.println("Sum is equal to 10");

}

}

public static int calculateSum(int x, int y) {

return x + y;

}

}

6. Write two methods (exercise from the presentation):

- One that will return the biggest element in a given array.

- And the other one that will return the smallest element in a given array

public class MinMaxArrayExample {

public static void main(String[] args) {

int[] numbers = { 5, 8, 2, 10, 3 };

int max = findMax(numbers);

int min = findMin(numbers);

System.out.println("Max: " + max);

System.out.println("Min: " + min);

}

public static int findMax(int[] arr) {

return Arrays.stream(arr).max().orElse(Integer.MIN\_VALUE);

}

public static int findMin(int[] arr) {

return Arrays.stream(arr).min().orElse(Integer.MAX\_VALUE);

}

}

7. Write a method to calculate the average value of 3 numbers.

public class ThreeNumberAverageExample {

public static void main(String[] args) {

double num1 = 12.5;

double num2 = 8.0;

double num3 = 6.3;

double average = calculateAverage(num1, num2, num3);

System.out.println("Average: " + average);

}

public static double calculateAverage(double a, double b, double c) {

return (a + b + c) / 3.0;

}

}