**To create a class ComputeMethods that utilizes the java.util.Random**

**class, you might want to implement methods that perform various**

**computations or generate random data. Below are some examples of**

**what you can include in this class:**

**Example 1: Generate Random Numbers and Basic Computations**

**1. Generating Random Integers and Doubles:**

**o Methods to generate random integers within a range.**

**o Methods to generate random doubles within a range.**

**2. Computations Using Random Numbers:**

**o Methods to compute the sum, average, or other statistics**

**using generated random numbers.**

**Here’s a complete example of the ComputeMethods class:**

**import java.util.Random;**

**public class ComputeMethods {**

**private Random random;**

**public ComputeMethods() {**

**// Initialize the Random object**

**random = new Random();**

**}**

**// Method to generate a random integer between min and max**

**(inclusive)**

**public int getRandomInt(int min, int max) {**

**return random.nextInt((max - min) + 1) + min;**

**}**

**// Method to generate a random double between min and max**

**public double getRandomDouble(double min, double max) {**

**return min + (max - min) \* random.nextDouble();**

**}**

**// Method to compute the average of an array of integers**

**public double computeAverage(int[] numbers) {**

**if (numbers.length == 0) return 0;**

**int sum = 0;**

**for (int number : numbers) {**

**sum += number;**

**}**

**return (double) sum / numbers.length;**

**}**

**// Method to compute the sum of an array of doubles**

**public double computeSum(double[] numbers) {**

**double sum = 0.0;**

**for (double number : numbers) {**

**sum += number;**

**}**

**return sum;**

**}**

**// Method to generate an array of random integers**

**public int[] generateRandomIntArray(int size, int min, int max) {**

**int[] array = new int[size];**

**for (int i = 0; i &lt; size; i++) {**

**array[i] = getRandomInt(min, max);**

**}**

**return array;**

**}**

**// Method to generate an array of random doubles**

**public double[] generateRandomDoubleArray(int size, double min,**

**double max) {**

**double[] array = new double[size];**

**for (int i = 0; i &lt; size; i++) {**

**array[i] = getRandomDouble(min, max);**

**}**

**return array;**

**}**

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

**ComputeMethods cm = new ComputeMethods();**

**// Generate random numbers and compute results**

**int[] intArray = cm.generateRandomIntArray(5, 1, 100);**

**double[] doubleArray = cm.generateRandomDoubleArray(5, 0.0,**

**1.0);**

**System.out.println(&quot;Random Integers:&quot;);**

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

**System.out.print(num + &quot; &quot;);**

**}**

**System.out.println(&quot;\nAverage of Integers: &quot; +**

**cm.computeAverage(intArray));**

**System.out.println(&quot;\nRandom Doubles:&quot;);**

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

**System.out.print(num + &quot; &quot;);**

**}**

**System.out.println(&quot;\nSum of Doubles: &quot; +**

**cm.computeSum(doubleArray));**

**}**

**}**

import java.util.Random;

public class ComputeMethods {

private Random random;

public ComputeMethods() {

// Initialize the Random object

random = new Random();

}

// Method to generate a random integer between min and max (inclusive)

public int getRandomInt(int min, int max) {

return random.nextInt((max - min) + 1) + min;

}

// Method to generate a random double between min and max

public double getRandomDouble(double min, double max) {

return min + (max - min) \* random.nextDouble();

}

// Method to compute the average of an array of integers

public double computeAverage(int[] numbers) {

if (numbers.length == 0) return 0;

int sum = 0;

for (int number : numbers) {

sum += number;

}

return (double) sum / numbers.length;

}

// Method to compute the sum of an array of doubles

public double computeSum(double[] numbers) {

double sum = 0.0;

for (double number : numbers) {

sum += number;

}

return sum;

}

// Method to generate an array of random integers

public int[] generateRandomIntArray(int size, int min, int max) {

int[] array = new int[size];

for (int i = 0; i < size; i++) {

array[i] = getRandomInt(min, max);

}

return array;

}

// Method to generate an array of random doubles

public double[] generateRandomDoubleArray(int size, double min, double max) {

double[] array = new double[size];

for (int i = 0; i < size; i++) {

array[i] = getRandomDouble(min, max);

}

return array;

}

public static void main(String[] args) {

ComputeMethods cm = new ComputeMethods();

// Generate random numbers and compute results

int[] intArray = cm.generateRandomIntArray(5, 1, 100);

double[] doubleArray = cm.generateRandomDoubleArray(5, 0.0, 1.0);

System.out.println("Random Integers:");

for (int num : intArray) {

System.out.print(num + " ");

}

System.out.println("\nAverage of Integers: " + cm.computeAverage(intArray));

System.out.println("\nRandom Doubles:");

for (double num : doubleArray) {

System.out.print(num + " ");

}

System.out.println("\nSum of Doubles: " + cm.computeSum(doubleArray));

}

}

