Generate a Java code to find the sum of N numbers using array and throw ArrayIndexOutOfBoundsException when the loop variable beyond the size N.

CODE:

import java.util.Scanner;

public class SumOfNumbers {

public static void main(String[] args) {

Scanner scanner = new Scanner(System.in);

// Input the size of the array

System.out.print("Enter the number of elements (N): ");

int N = scanner.nextInt();

// Create an array of size N

int[] numbers = new int[N];

// Input the elements of the array

System.out.println("Enter " + N + " numbers:");

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

numbers[i] = scanner.nextInt();

}

// Calculate the sum of the numbers

int sum = calculateSum(numbers);

// Output the sum

System.out.println("Sum of the numbers: " + sum);

scanner.close(); // Closing the scanner object

}

// Function to calculate the sum of numbers in an array

public static int calculateSum(int[] arr) {

int sum = 0;

for (int i = 0; i < arr.length; i++) {

// Throw ArrayIndexOutOfBoundsException if the loop variable goes beyond the size of the array

if (i >= arr.length) {

throw new ArrayIndexOutOfBoundsException("Loop variable went beyond the size of the array.");

}

sum += arr[i];

}

return sum;

}

}

OUTPUT:

C:\javap>javac SumOfNumbers.java

C:\javap>java SumOfNumbers

Enter the number of elements (N): 8

Enter 8 numbers:

89 1 13 98 100 93 39 10

Sum of the numbers: 443

