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/**
 * TimingCode.java
 * Illustrates basic approach to measuring a method's
 * running time.
 */
public class TimingCode {

    // number of timing runs to make
    private static final int NUM_RUNS = 10;

    // 1.0E9 ns per second
    private static final double SECONDS = 1_000_000_000d;

    /** Drives execution. */
    public static void main(String[] args) {
        long start;
        long elapsedTime;
        double avgTime = 0d;
        for (int i = 0; i < NUM_RUNS; i++) {
            start = System.nanoTime();
            foo();
            elapsedTime = System.nanoTime() - start;
            avgTime += elapsedTime;
        }
        avgTime = avgTime / NUM_RUNS;
        // convert to seconds
        avgTime = avgTime / SECONDS;
        System.out.printf("%s%4.3f%s\n", "Method foo's running time: ", avgTime, " seconds");
    }

    /**
     * Something that (hopefully) takes time >= 0.001 seconds
     * so that the program output looks better.
     */
    private static int foo() {
        int[] a = new int[100];
        java.util.Random rng = new java.util.Random();
        for (int i = 0; i < a.length; i++) {
            a[i] = rng.nextInt();
        }
        int sum = 0;
        for (int i = 0; i < 100_000; i++) {
            for (int val : a) {
                sum = sum + val;
            }
        }
        return sum;
    }
}

```